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A twilight session in the shadows of the Campanile at Iowa State College

# Country Life Conference Addresses



Agricultural Extension  
Department

Delivered at the Third Annual  
Rural Life Conference

IOWA STATE COLLEGE OF AGRICULTURE  
AND MECHANIC ARTS

AMES, IOWA  
RURAL LIFE CONFERENCE  
AGRICULTURAL EXTENSION DEPARTMENT







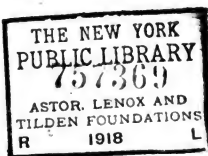
OFFICIAL PUBLICATION OF  
IOWA STATE COLLEGE OF AGRICULTURE  
AND MECHANIC ARTS

Vol. XII

MARCH 1, 1914

No. 29

Country Life Conference  
Addresses



AGRICULTURAL EXTENSION  
DEPARTMENT

Extension Bulletin No. 18

Ames, Iowa

Published Tri-Monthly by the Iowa State College of Agriculture and Mechanic Arts. Entered as Second-class Matter, October 26, 1905, at the Post Office at Ames, Iowa, under the Act of Congress of July 16, 1904.



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## FOREWORD

**I**N THE last minutes of the last session of the 1913 Rural Life Conference at Iowa State College sometimes three or four men were on their feet at a time, eager to add their words to the warm appreciation already spoken. This was the tenor of all that was said in those closing moments: "We have been inspired; we have been aroused to the importance and dignity of a rural minister's work; we have been given new enthusiasm for it; we have been shown how we may labor more efficiently, for both church and community. We go back determined to do something for the church, the school, the farm, the home and all that is linked with them." Then they went further and pledged themselves to report to this year's conference the results of their new labors.

It seemed wrong not to put into print the addresses which had aroused this unusual enthusiasm and thus give them wider influence. That is why the Agricultural Extension Department of the College gladly provided the funds to publish this collection of Conference lectures. It is hoped that their helpfulness may be carried far through this bulletin, particularly to those who minister in the more remote communities, and that it may help them to see their work as the Conference dignified it—a great and joyous work.

The programme of the Conference put emphasis on three general subjects: Rural economics, rural sociology and rural religious pedagogy. Therefore the pages that follow are given mostly to the addresses of those who discussed these subjects: Dr. T. N. Carver, formerly of Harvard University, but now director of the rural organization service of the United States Department of Agriculture, and Rev. Clair S. Adams of the Presbyterian Department of Church and Country Life. Dr. Carver developed the lesson that rural ministers need to study the economic and social problems of rural communities as well as their bibles and commentaries and also gave them a new view of these problems. Mr. Adams gave two series of lectures, one on rural religious pedagogy and another on rural sociology. He spoke out of years of study of these questions and from the practical view point of a minister who had made a notable success of a village pastorate at Bement, Illinois. Mr. Adams also served as leader of the Conference in a way that won him the lasting friendship of those who attended.



Two other important addresses are given, those of Dr. P. Adelstine Johnson, secretary of the Congregational Home Mission Board for Iowa, and Rev. William Hints, Methodist college pastor at Iowa State College.

It is unfortunate that some of the other talks cannot be presented, particularly the informal talks of the meetings that were held in the soft summer twilight under the trees of the campus. The talk came spontaneously out of the rich experience of the men who spoke. The addresses that are included are necessarily abridged, but effort has been made to preserve their argument and their spirit.

For the coming annual Conference, the fourth, June 22 to July 3, a committee under the chairmanship of Dean Chas. F. Curtiss, has arranged a programme that touches every important rural interest, religious, economic and social, and which includes such speakers as James Wilson, former secretary of agriculture; Herman N. Morse, a former minister who is now serving as secretary of the Bennington County Improvement Association in Vermont; Ernest Thompson Seton, leader of the Boy Scout movement; P. P. Claxton, United States Commissioner of Education; Luther Gulick and Miss Frances Gulick of the Camp Fire Girls movement; Miss Mable Kearney, a rural school specialist; and Fred M. Hansen, state secretary of county Y. M. C. A. work in Iowa. The college provides this programme without cost to those who attend and in addition gives them opportunity to attend the agricultural lectures of the summer session.

This year the Conference is to receive the organized and systematic support of leading church societies in Iowa. The state and district superintendents and other representatives of half a dozen denominations met at the college recently, heard a presentation of the plans and then warmly pledged their co-operation in securing a large attendance of rural ministers and laymen.

The authorities of the college look upon the chance to serve the rural church and other rural institutions through these conferences as a privilege. They feel the conviction expressed by Dr. Carver in his final talk last July: "The solution of the rural problem lies largely with the rural ministers who are helping rural people to form their likes and dislikes." They hope that the publication of this collection of addresses may serve to spread that conviction far.

THE EDITOR.

Ames, Iowa, March, 1914.



# COUNTRY LIFE ADDRESSES

Delivered at the Rural Life Conference,  
Iowa State College, July 7-19, 1913.

## THE ECONOMIC CHARACTERISTICS OF THE AGRICULTURAL INDUSTRY

By T. N. CARVER, PH. D.,

Formerly of Harvard University, now Director Rural Organization  
Service, U. S. Dept. of Agriculture.

THE first important characteristic of agriculture, as distinct from other industries, is its dependence upon space. This is a very simple and obvious characteristic, but it is of fundamental importance and affects some of the problems of state and statesmen in most important particulars. Because it is true in almost every civilized nation that space is one of the limiting factors of production, much of the statesmanship of these countries has been directed toward the acquisition of more space or territory. When a people can say more land, more produce, less land, less produce, they have a vital interest in the increase of their land area. Again, most of the migrations of history and most of the wars of history, until the last century and a half, have been produced by this simple fact of the dependence of agriculture upon space.

Urban populations, on the other hand, who are engaged in manufacture and commerce, do not find space or territory a limiting factor, but markets. No nation can say more land, more manufactures, less land, less manufactures, but they can say more markets, more manufactures, less markets, less manufactures. Accordingly, the commercial policies of modern times and the commercial wars have been directed toward the expansion of markets. Given wide enough markets and any conceivable number of people can be properly employed in the industry of the given territory. No matter how wide the markets may be, with a limited land area, there is a definite limit to the expansion of the agricultural industry.

The second characteristic, in some ways connected with the first, is that agriculture is always an industry of small units. Now the size of the unit, however, depends upon our basis of measurement. There are various ways of measuring a thing. A physical object can be measured by terms of its weight, or its cubic contents. A piece of cork and a piece of lead lying side by side may be compared on the basis of weight, in which case we would say there is more lead than cork; then they may be compared on the basis of cubic contents, in which case we would say there is more cork than lead. Now a farm and a factory may be compared on the basis of the land used, in which case the farm would be called a larger unit than a factory; but they may also be compared by the men employed, in which case the factory would be the larger unit.

It is customary in discussing this question to assume that the number of laborers employed is the proper basis of measurement. Assuming this to be true, then it is clear that farming is and must continue to be an industry of small units, because the average farmer employs and must continue to employ very few men as



compared with the average factory. This distinction is also obvious and simple, but some rather important results follow from it. In the first place, it seems that a large percentage of rural people must be self employed and a small percentage in the employ of other people, whereas, the opposite conditions must prevail in urban conditions. It means also that since the average man must be self employed in the country, he must be capable of self direction. Comparatively few men can be used in the country who have to be directed by a "boss." Men who never know what to do next, but must always be told, will naturally flock to the city, where that vexing problem is solved for them by the few who act as superintendents. Again, it follows from this that the rural people, being by this process of selection a self dependent, self directing people, are necessarily hard to organize. Whereas, urban people, being less self dependent and self directing, have the organization habit developed to a higher degree.

#### FARMING MUST BE AN INDUSTRY OF SMALL UNITS.

The reasons why farming must be made an industry of small units is that the difficulties in administering a large unit in agriculture are so great as to make it a less efficient competitor than the small unit. A small farmer can produce so much more efficiently than a large farmer, and the land is therefore worth so much more to the small farmer than it is to the large farmer, that the commercial pressure would eventually cause the dividing up of the land in order to sell the property at the price the farmer is able to pay. Now those difficulties in the way of large scale management in agriculture must be classified under three heads,—geometrical, seasonal and temperamental. The geographical difficulties grow out of the characteristic of agriculture noted above, its dependence upon space. To employ one hundred men in general hay and grain farming would require so much land as to make it difficult for the manager to supervise them all efficiently. In order to have the men working efficiently would require a considerable number of foremen and here is a waste of energy which in itself would seriously handicap the big farm as compared with the small farm. Under the seasonal difficulties is included the fact that farm work has to be changed very frequently. On a farm you cannot, as you can in the factory, give one man one job and let him work at that the year around. The differences of supervision are enormously increased by the fact that every man must be given a new job, some times every day, or several times a day, certainly several times during the season. The administrative genius who could successfully direct one hundred men under such conditions probably never existed. Under the temperamental differences are included the facts relating to the individuality of country people, the processes of selection mentioned above, bringing it about that country people are a little more individualistic and harder to manage than city people.

One characteristic of the agricultural industry is the fact that nowhere else are the business and the home united. They have been divorced in our cities. The city business man does not pretend to live with his business. He is, therefore, content to allow the slums and other bad conditions to exist in the neighborhood of his factory and his stores because he himself does not have to live there nor bring his family under these conditions. He can move to some suburb or section of the city where the living conditions are attractive. I think, on the whole, that it is fortunate that farmers



are not able to do this. Having to live with their business, they can not free themselves from the necessity of keeping the neighborhood decent.

From this follows, also, that the neighborhood idea holds its own in the country, and that it disappears from the city. Neighborhood geometry, physical propinquity, determine social grouping in the country, whereas class relations determine them in the cities. Since the farmer is under the necessity of living with his business, he not only finds it to his advantage to try to assist in neighborhood affairs and keep the neighborhood decent as a place in which to bring up his family, but he also has a special reason for desiring that his place of business shall be attractive. If he could get away from his farm and do his living somewhere else, he could be content to run his farm as many people run their factory, merely as a source of income and to regard every expenditure for beautification as so much waste. But since the farm is also his home, it is to his interest to spend money for the beautification of his farm, if he has it to spend, as truly as it is for the business man, who has a large income, to spend money on the beautification of his residence.

A farmer who works his own team, if he is a good farmer, will take some pride in their sleek and well-fed appearance as well as in their harness. It would destroy a part of his joy of living if he saw them ill fed and ill groomed and sore shouldered. When he does not work his own team, but is a long way off, leaving them to hired men and superintendents, he is very likely to consider it a waste of money to embellish the harness or to feed them any better than is necessary to maintain their necessary working capacity. The same principle is involved in the farmer's attitude toward his land, his buildings and other instruments of production. When he lives with them, they are a part of his life. When he lives away from them, as the absentee landlord does, they cease to be a part of his life, and are only a source of income. This is the characteristic attitude of the city business man, who is always in very much the same position toward his property as the absentee landlord is toward his land.

## THE FUNDAMENTAL LAW OF AGRICULTURAL PRODUCTION

By T. N. CARVER.

**I**T is a commonplace of economics that industry consists merely in moving things. That is all we ever see men doing, just moving things from one place to another. That is all a moving picture machine will show. But, of course, there is some thinking going on behind the process of moving things. When we begin to look behind the physical aspects of industry, we discover that men are not only moving things, but moving them for the purpose of getting them together in the right proportions. This is true of every process, from the work of the chemist who is putting things into a test tube, to the engineer who is draining a swamp or irrigating an arid plain. All are engaged in the work of getting things together in the right proportion. In the swamp there is too much water, things are combined in the wrong proportions and they must be made right. While in the arid plain there is too little water; things are again combined in the wrong proportions and must be made right.



The chemist who is working with the simplest and most elementary of all physical elements has to combine them under what is known as the law of definite proportions. That is to say, his elements must be combined in exact mathematical proportions, with no variation one way or the other. At least that is true of some of his combinations.

Outside of this rather narrow field within which this law of definite proportions holds we have the law of variable proportions, which includes everything not included in the former. This law of variable proportions means that the various ingredients that have to be combined to get a given result do not need to be combined in mathematically exact ratios, but the ratios can be varied within a more or less wide zone. Any one of the ingredients may be varied, and still results obtained. Though the results will vary, they do not vary in proportion to the variation of the one ingredient which was changed. This may be expressed in quasi algebraic terms\* as follows:

If  $x$  and  $y$  with  $z$  will produce  $p$ , then  $a x$  with  $y$  with  $z$  will produce:

- (1) More than  $a p$ , or
- (2)  $a p$ , or
- (3) Less than  $a p$ , or
- (4)  $p$ , or
- (5) Less than  $p$ .

When the ingredients in question are land, labor and capital, and  $x$  represents labor and  $y$  and  $z$  land and capital, this law applies as it does in all other applications, but in the above, (1) describes what is commonly known as the law of increasing returns; (2) describes what is commonly known as the law of constant returns; (3) what is known as the law of diminishing returns; (4) what might be called the law of neutral returns; and, (5) what might be called the law of negative returns.

If the increase of  $x$  represented by the quantity  $a$  produces the first condition, namely increasing the returns (1), it was a bad combination to begin with and ought to be corrected as speedily as possible. If the second of the conditions, namely, constant returns (2), results, the conditions are bad unless the other ingredients  $x$  and  $y$  cost absolutely nothing. If  $x$  costs anything at all, the fourth condition, namely, neutral returns (4), is obviously bad, for if you increase  $x$  at some expense and get no increase in the production at all, it was a bad investment to increase  $x$ . The fifth condition, namely, negative returns (5), is obviously bad from every point of view. Under ordinary circumstances, therefore, every properly organized industry comes under the third condition, namely diminishing returns (3). Here is the field of profitable variation of  $x$ .

#### THE LAW OF VARIATION OF UTMOST IMPORTANCE.

Now, this law of variation is of the utmost importance when we come to consider the wage question or the proportion of population to land in rural districts. This law is, by the way, a physical law and lies deeper than social organization and government itself, and can no more be obliterated than can gravity or any other physical law. Any sane method of social reform must proceed in harmony with this great fundamental law. I am aware that reformers sometimes get impatient of the discussion of economic laws and make the charge that these laws are invented by economics to block reform. It would be exactly as reasonable to say that gravity was invented by the physicists to block aviation. Gravity did interfere with

\*Let us assume that  $a$  is a positive quantity greater than 1.)



Darius Green's system of aviation, but not with that of the Wright brothers. The economic laws do interfere with the Darius Greens of social reform. They do not interfere in the least with the Wright brothers of social reform. We can have any kind of social reform we want if we go about it in the right way and work in harmony with these fundamental economic laws. We cannot have it under any other conditions whatever.

Now, most of our serious economic and social problems grow out of the fact that the various factors of industry are combined in bad proportions. The labor problem, for example, is the result of an over supply of one kind of labor or an under supply of some of the other factors that have to be combined with that labor. This is as truly a bad physical situation as it is when you have on one piece of land more water than can combine satisfactorily with existing soil, and then on another piece of land, less water than is necessary for plant growth. In this latter situation, there is obviously no cure except to change the proportions and drain off the surplus water from the swamp or put more water on the arid plain. It is exactly as difficult to try to cure bad labor conditions by any other method.

#### TOO MUCH LAND AND TOO MUCH LABOR BOTH BAD.

In the early development of western agriculture in America we had a physical condition quite analogous, too much land and too little labor. Land being abundant and cheap and labor being scarce and dear, our tendency was to waste and exploit the land, as we always waste and exploit that which is cheap and abundant; and to economize labor, even to the extreme of parsimony, as we always economize that which is scarce and dear. It was too much work to cultivate the corners of the fields. We were very parsimonious with our labor. There was an abundance of land, however, so we were quite willing to waste the land in these corners. However, there is an opposite extreme even worse than this, that is the condition where there is too little land and too much labor. Where labor is abundant and cheap it is always wasted and exploited, and where land is scarce and dear it is economized, even to the extreme of parsimony. As between the wasting and exploiting of land on the one hand, and the wasting and exploiting of labor on the other, the latter is infinitely worse. A proper balance between these two extremes is what is needed. This brings agriculture under the great law of proportionality. There should be enough labor to cultivate all the land thoroughly, but not so much as to make labor a cheap and abundant commodity. Here is another excellent illustration of the old Greek adage, "Nothing in extreme." The golden mean is the ideal here as well as everywhere else.

Because of a natural reaction against the extreme condition which existed here a half century ago, when land was so cheap and abundant as to cause it to be wasted, many of the people are going to the opposite extreme, in their talk at any rate. They are trying to stand so straight as to lean pretty far over backward. They are talking about intensive cultivation, holding up to our admiration such conditions as we find in Japan, China, southern Italy, and other densely over-populated countries where land is dear and labor very abundant and cheap. Where land is abundant and cheap, it tends to the impoverishment of the land, but where labor is cheap, it tends to the impoverishment of the people, which is much worse. It will be noticed that all of these countries which are held up to our admiration nowadays are countries where the



people are woefully impoverished; countries, in the language of the old hymn, "Where the skies forever smile and the oppressed forever weep."

When the figures of the last census came out, and it was discovered that Iowa lost slightly in population during the last ten years, many people were much disturbed about it and thought what an awful thing that was. They did not stop to realize that Iowa is the most prosperous state in the union; that there is no population of equal number or territory of equal extent on the face of the earth, where there is so much comfort and so little poverty as in the state of Iowa. Now these things are not disconnected. If you were to populate the state of Iowa, as some of those countries that are held up to our admiration are populated, you could boast of large numbers, but you could no longer say that Iowa has less poverty than any other part of the world. You would have exactly as much as southern Italy, China or Japan if you had as dense a population subsisting upon your diminishing returns, as it is sometimes called, which is only a special form of the greater law of proportionality, is not to be evaded. You may think you are cheating it, but nature will have her dues, and if you make the mistake of pursuing the ideal of dense population, you will pay the penalty just as surely as you would if you made any other fundamental, economic mistake.

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## THE ORGANIZATION OF RURAL INTERESTS (I.)

---

BY T. N. CARVER.

**I**T has long been recognized that the weakness of the farmer's position lay in his lack of organization. This lack of organization is due to several perfectly definite causes.

In the first place, the fact that agriculture requires so much space makes it physically necessary that farmers should live a long way apart. The geometric difficulties of acting together are therefore very much greater than they are in the cities, where people work in close physical proximity to one another.

In the second place, agriculture is an industry of small units and therefore, in order to supply the market, there must be a great number of them. There are more than six million farms, for example, in the United States. Other industries which find their greatest economies of production in large units, tend to enlarge until comparatively few large establishments can supply the market. These few establishments, then, find it relatively easy to organize into some kind of manufactures' association, even if they do not go to the extreme of organizing a trust.

In the third place, more important than either of these, is the fact that the farmer's work brings him into contact with physical forces more than with social forces. His success, as in the past, depends more upon his ability to adjust himself to his material, than to his social environment. He has, therefore, become an expert in dealing with men, markets, etc.

Yet the time has come when in spite of all these difficulties, the farmers must organize in order to hold their position in society and avoid being reduced to the condition of peasants. In order to help compensate for these natural disadvantages in the way of organization, the present secretary of agriculture has decided to



put the resources of his great department at the service of the farmer in this direction as well as in the field of technical production. That is the reason for the establishment of the rural organization service.

Now there is a large question in economic and social philosophy to be worked out satisfactorily in advance of any attempt in this direction. This question is first of all, "What is the ideal economic unit upon which to construct a rural civilization?"

It is the theory of the writer that the ideal economic unit in the agricultural industry is the one family farm, as opposed, first, to the bonanza farm, on which the owner and the manager do nothing but own and manage, while the manual work is done by a gang of hired laborers. On the one family farm, the owner and the manager and the worker are one. This, I believe, is the best way of developing men, and after all, the chief crop is men. Other crops are grown only for the purpose of growing men. Even if some other method of production could grow better crops, if this method grows better men, that is enough to justify it. I have every reason to believe that this method of growing men is also the best possible method of growing crops. However, this is a question that requires some very careful analysis.

#### THE FAMILY A BETTER UNIT THAN THE MULE.

In the second place, by the one family farm is meant not only a farm which is operated by one family, but a farm where the family is in every real sense the unit around which land, tools, cattle and other things are organized. We have, by way of illustration, in the south what are known as one mule farms and two mule farms, thus making the mule the unit around which the rest of the industry organizes. I would rather see the industry organized around the family than around the mule. The one family farm differs from the peasant farm in this important particular. As in the south the mule is the unit, so under the peasant type of farming, a parcel of land is the unit, rather than the family. That is to say, the farm is regarded as a fixed entity; the farmer must adjust himself to that. Instead of trying to farm as much land as the family can farm economically, they take the farm as it stands and the family adjusts its methods to the farm. On the one family farm, the question is how much land can this family farm when equipped with the best tools, machinery and animals and how much in the way of tools, machinery and farm animals can the family handle on the farm? Whereas, on the peasant farm, there is a fixed acreage, small in extent, and the question is, what kinds of tools and machinery will it pay the family to use on such a farm? If the farm is too small to support a team of horses, the farmer must use oxen; if it is too small for a pair of oxen, he must work the milk cows. In short, the methods and the implements of agriculture are determined by the size of the farm and not by the capacity of the farmer.

Now, in the actual work of production, this small unit, which I call the one family farm, equipped with the best machinery there is, can, in my opinion, hold its own in competition with all units, either large or small. But in the work of buying and selling, a large concern generally has the advantage because it can give more attention to salesmanship, to advertising, etc. This disadvantage a small farmer can overcome only by organized buying and selling. There is, by the way, very little co-operative farming in the world. It is found here and there, but it is insignificant in quantity.



The first great task, therefore, of the rural organization service must be to promote organized marketing of farm products, for it is only by organizing that the small farmer can market successfully in competition with the big farmer. Particularly is this true in the field of agricultural specialties for which there is not a very well organized market at any time. The need for organization among farmers who are selling great staple crops, where the market is well organized and the prices are public, is much less than it is among the producers of agricultural specialties, for whom there is no well organized market and who do not always sell at quotable prices.

Another great need is for better credit facilities. Fortunately for Iowa, this need is not very acute, where land is so valuable that lenders are willing to lend on favorable terms. There are, however, a great many sections of this country, where the farmer is very inadequately supplied with credit facilities, and if he borrows on personal credit at all, it is usually for sixty days. Sometimes a bonus is charged, but whether it is or not a farmer is in rather a weak position who depends upon the good will of one man for his solvency. The farmer's business is seasonal and he seldom needs credit for less than six, nine or twelve months. If the existing banks can not adjust themselves to this situation and supply him with what he needs, other banks must be organized which can serve the purpose.

Another form of credit for which the need is still greater is the long time mortgage loan. There is very much needed, in many parts of this country, a land bank which will lend to the farmers for long periods with slow amortization. A bank, for example, which would lend one thousand dollars, to be paid off in sixteen annual installments of one hundred dollars each. This, by the way, will pay both principal and interest and leave the borrower out of debt in sixteen years, allowing six per cent to the lender.

I realize that the great obstacle to co-operation among farmers in this country, is their prosperity. Co-operation has flourished in Europe only where the farmers were facing bankruptcy. When the alternative is presented to them, co-operate or become bankrupt, they are sometimes willing to choose co-operation. Our farmers have not had that alternative presented, but if co-operation is so profitable as to transform a losing business into a profitable business, it ought also to be capable of transforming a moderately profitable business into a more highly profitable business. That is an aspect of the situation which I commend to the consideration of the Iowa farmers.

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## THE ORGANIZATION OF RURAL INTERESTS (II.)

---

BY T. N. CARVER.

THE economist is likely to emphasize the human factor in agriculture more than the crop factor. Crops should be grown for the purpose of producing men. That is the best crop which produces the best man; similarly, that is the best farm which produces the best men, not necessarily that which produces the biggest crops. If there is a crop which yields ever so many dollars worth of production, but demoralizes the rural community, it is not to be desired. If there is a system in agriculture which increases the production per acre ever so much, but



reduces the general standard of civilization in rural communities, it is to be avoided. It is recognized, I believe, by all animal husbandrymen, that it is poor economy to grow good corn to feed to scrub stock. If that be true, it ought to be recognized that it is even worse economy to grow good corn and cattle to feed to an inferior race of men.

One of the advantages of the organization of rural interests is the effect which it has on men. The superior race of men, taken the world over, are the men who can work together successfully in some kind of organization, who recognize mutual obligations as well as mutual rights. The peculiar quality of Anglo-Saxon civilization and government is due primarily to the Anglo-Saxon's power of working with his fellows. The difference between this and other forms of civilization finds an excellent illustration in the difference between the civilization on this side and that on the other side of the Mexican border at the present time.

In order that there may be a real working program for rural organizations, we must have a perfectly clear and definite object for which to organize. Organization in the air, or organization for organization's sake, is the poorest kind of program. But organization for a clear and definite working purpose is a good sort of program. One clear and worthy purpose of organization is the marketing of the special products or the by-products of the farm, for which the market is not very well organized and upon which much of the produce of farming depends. The great staple crops that are bought and sold in large quantities with a well organized market, already going, with the channels for the moving of products already worn smooth, do not call for so much organization at the present time as do the special products for which there is no well organized market and which do not regularly sell at a published or a quotable price.

A large shoe manufacturer of New England once told me of one of his early experiences in the shoe business. One of his largest customers was a jobber in St. Louis, who bought large quantities and paid promptly. As an especial favor to himself, he asked that his, the jobber's, brand or trademark be put on the shoes instead of the manufacturer's. Since he was such a good customer, the manufacturer agreed. After a few years, however, the jobber decided to build his own factory and manufacture his own shoes. The new England manufacturer then discovered that he had been manufacturing shoes for several years for the purpose of building up the jobber's reputation and not his own. The consumer was now acquainted with the jobber's brand of shoes, but knew nothing of the manufacturer's. The manufacturer, therefore, had no way of "getting by."

#### HOW PRODUCER MUST GET ACCESS TO THE CONSUMER.

This illustrates a most important principle, namely, that the dealer is never interested in building up the producer's reputation; the producer must look after that himself, and until he does get his own reputation, or get access to the consumers, he can not sell directly to them and must sell through the person who has the control of the consumers' market.

Three things, therefore, the producer must do in order to get access to the consumer, whatever else he may deem advisable to do in special cases. First, he must grade and standardize his own products; second, he must mark them by his own brand or trademark, and third, he must make that brand or trademark known to



the consumers. He must grade and standardize his own products for the reason that the consumer would buy nothing which is not graded. The consumer demands to know exactly what he is getting and is willing to pay a good price if he does know. The man who does the grading and the standardizing is always the man from whom the consumer will buy. If the farmer allows the dealer to do this work, the consumer will always buy from the dealer and the farmer can not "get by." He must sell through the dealer who controls the consumer's market. If, however, the farmer will do his own grading and standardizing, a consumer would just as willingly buy of him as any one else.

The farmer must mark his own products with his own brand or trademark, merely for the purpose of establishing a mental contact with the consumer. The consumer must be guaranteed that when he buys a product with certain brands upon it, it is always good and he can depend upon it. In fact, it is almost impossible for any special producer in any community to maintain his reputation long unless this is done. Suppose a certain region becomes known as a peach-producing region. Peaches from this region, therefore, bring good prices upon the market. Unless the market is protected, a good many inferior growers will go into the business and put inferior peaches on the market, until the reputation of the neighborhood is destroyed. The only way to protect against this, is for the growers to organize and have all their peaches officially and scientifically graded and packed and then put the trademark of the association on the packages. But they must never allow that trademark to go on any package which is not first class. In that way they can preserve the reputation of their peaches indefinitely. What applies to peaches will apply to any other special production.

In order to enlarge the market for any special production of this kind, wider and wider circles of consumers must be made acquainted with the merits of the production. That calls for some judicious advertising.

#### MIDDLEMEN CANNOT BE WHOLLY ELIMINATED.

It is not likely, nor is it desirable, that any amount of organization among the farmers will eliminate the middle man entirely. The most that can be hoped or desired is that there may be enough new avenues through which the producer can reach the consumer, as to limit very closely the price which the middle man can charge for his service. If the only way of getting your production to your consumer is through a certain organization, then you must sell through that organization or not at all, and you must take whatever it is willing to allow you. When the consumer knows your product and begins to ask for it, then the middle man must handle it and he must then come to you and ask you for your product. You are then in a strong position and can dicker with him on even terms.

Another method of limiting the price which the middle man can charge for his service is to develop a large number of substitute crops or products. By way of illustration, if the growers of sugar beets are unorganized, but the beet sugar manufacturers are organized, the latter will need to pay the former only enough to induce them to keep on growing sugar beets and not go back to corn growing. If corn growing becomes more profitable, then the price of sugar beets rise, else the farmers will give up growing sugar beets and go back to corn. If other crops could be found which



would compete with sugar beets, so that the grower of sugar beets had a larger number of other opportunities, sugar beet manufacturers would again have to pay higher prices for the beets in order to get them.

This principle is capable of very wide application. Suppose that in the region which supplies milk to the large cities, new competitors with the dairy cow could be introduced. That in itself would enable the farmer to get higher prices for their milk, because the milk consumers could not get milk enough if the farmers tend to give up dairying for something else. The dealer would, therefore, have to pay a high enough price for milk to keep the farmer from going into something else besides dairying.

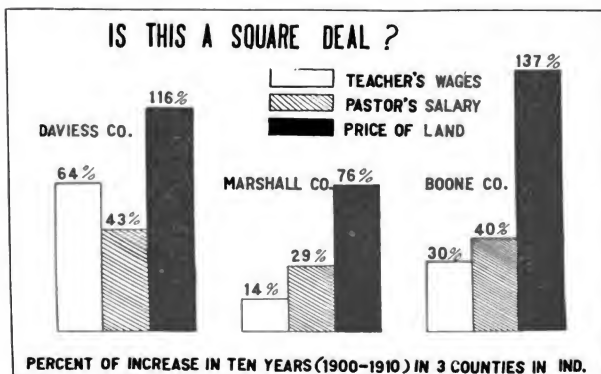
A farmer's organization is an excellent machine for the trying of experiments. Suppose the farmers of a given township who are now supplying milk to Boston, New York or of any other city, should organize to try and see what they could do with winter lambs, and whether they might not be quite as profitable as milk production, and the farmers of another town should try to see what they could do with some other product, and so on through the whole region. Experiments of this kind should be carried on on a pretty wide scale. There is always the probability that several good competitors with the dairy cow will be found and thus force up the price of milk. The cotton growers of the south, for example, have long been agitating the policy of limiting the cotton crop. Nothing is likely to be accomplished in this direction until they can find some other crop which will compete with cotton. If some other crop could be found which is as profitable as cotton, that in itself would limit the cotton crop and put up the price of cotton. Otherwise it is futile to talk about restricting the area of cotton. Besides being futile, it is immoral and therefore ought not to be successful.

Another advantage, however, of co-operative work of this kind is that farmers will do more of their work in the open and do much less speculating than they now do. Speculation and secretiveness go together. One reason the American farmer is so disinclined to organize is that in an organization affairs must be open to discussion and be made, therefore, quasi public. He has not the slightest objection to openly discussing any enterprise which is genuinely productive and constructive, but if one has a little of the gambler in him and wants to speculate a little, do a little shrewd bargaining, buy something for a little less than it is worth, or sell it for a little more than it is worth, such enterprises do not stand publicity, and the farmers who are engaged in operations of this kind resent any kind of publicity or discussion. At the same time it is quite obvious that enterprises of this kind do not enrich rural districts. What one gains by methods of this kind, some one else loses. It is desirable, on the other hand, that human energy should be directed toward enterprises which are genuinely productive, where one can gain without anyone else losing, that is the way communities are built up and so long as a man's efforts are confined to enterprises of this kind, he need not have the slightest objection to publicity or discussion, free and open, of his affairs.

Organized production, organized marketing, organized credit, are based, of course, upon free and open discussion and any population as they flourish, speculation and all sorts of shady transactions must disappear. The two can not exist side by side. If speculation and shady transactions persist, the farmers' organiza-



| AMERICAN AGRICULTURAL TYPES |                           |   |  |  |
|-----------------------------|---------------------------|---|--|--|
|                             | IDEAL OF<br>LIFE          | SOIL  | ATTITUDE<br>SCHOOL   | TOWARDS<br>CHURCH  |
| THE<br>PIONEER              | SELF<br>PRESERVATION      | OWNING LITTLE<br>SQUATTER                       | FEW, POOR<br>SHORT TERM  | CIRCUIT RIDER<br>CAMP MEETING                                |
| THE<br>HOMESTEADER          | FAMILY                    | OWNING AND<br>LIVING ON HIS<br>HOME FARM        | RISE OF RURAL<br>SCHOOL, ACADEMY,<br>DENOMINATIONAL<br>COLLEGE | PASTORATES<br>SABBATH SCHOOLS<br>YOUNG PEOPLE'S<br>SOCIETIES |
| THE<br>EXPLOITER            | MONEY                     | ARTICLE OF<br>MERCHANDISE<br>MINING THE<br>SOIL | DECLINE OF<br>SCHOOL, ACADEMY,<br>& COLLEGE                    | DECLINE  |
| THE<br>HUSBANDMAN           | COMMUNITY<br>CONSERVATION | CONSERVATION                                    | STATE<br>UNIVERSITY<br>CONSOLIDATED<br>SCHOOLS                 | FEDERATION<br>OF CHURCHES                                    |





tions will go to pieces. If the farmers' organizations persist, speculation and shady transactions must disappear to the great enrichment of the whole community.

## AMERICAN AGRICULTURAL LIFE

By REV. CLAIR S. ADAMS,

Of the Department of Church and Country Life, Presbyterian Church.

**I**N beginning a study of rural sociology, which is a study of rural life and its relations, it is important to make some study of the different types of rural men and women produced by these periods. These periods and their distinctive types have much to do with determining the life and the character of the institutions of the open country, and its problems.

Here in America four different periods characterize our agricultural development. In each period a distinctive type of rural man is found, although often these types are contemporaneous; each has influenced the other, each is a little more attached to the soil than that which precedes it, and each is a little broader in vision and sympathy. These types in their turn influence rural institutions, and particularly the church, for being spiritual, the church is readily affected by changing circumstances.

These four periods and types are the periods and types of the pioneer, the homesteader, the exploiter, and the husbandman. We find them all somewhere in our country today. That adds to the difficulties of understanding rural people, but what makes them more difficult is the fact that here in America these types have been produced by economic and social conditions in less than 300 years when in Europe a thousand years was required to bring the same results. So that centuries of Europe have been crowded into decades in America.

### THE PIONEER AND THE PIONEER PERIOD.

The pioneer period in America corresponds in many ways to the roving hunter, and cave-dweller age of Europe. In this period life was lonely; it was miles through forest and across plain to the nearest neighbor. There was even little family life. Men went out alone to hunt, to explore, and to fight with enemies, often the Indian, many times the elements, always the soil from which a bare subsistence must be wrested by cunning strength. They had little attachment to the soil. The hunter, the fisher, and the trapper were the period's best representatives; men like Daniel Boone, and David Crockett, were its leaders. All along the inland rivers in my native state of Illinois are the old stopping places of these roving pioneers, among them a dozen are marked to show where Lincoln's parents tarried for months or years, always on their way west. These pioneers were mere "squatters." The raising of crops was secondary; hunting, trapping, fishing and exploring were the chief occupations of life. A stern individualism kept them from social intercourse. Woodcraft was their schooling and to get a bare subsistence was their constant struggle. Self preservation was the law of their life. Amid such surroundings there was no social life, play or companionship, except what came at rare intervals. Physical powers was the highest ambition, and it determined a man's standing. The emotions were childish



and crude and needed constantly the stimulus of changing scenes or whiskey. There were no schools worthy the name, yet the pioneer was skilled in woodcraft and in the simple arts that ministered to his few needs, he could live care-free, where his more enlightened children would have perished. This forced dependence upon self made individualism emphatic and placed society and religion quite secondary. There was a moral detachment which gave little room for religious activities, and so there was small place for church life. There were no Sunday Schools or like organizations. The circuit rider, camp-meeting, occasional services, revivals, and the excitement of "getting the power" were the stimuli by which a crude religion was sustained. The extraordinary was that on which the pioneer depended—the exciting, the emotional, and often the greatest preacher was the one who could shout the loudest. This pioneer period, this pioneer character and spirit were first in almost every part of America, and may still be found in some parts of the south and west.

#### THE HOMESTEADER AND HIS PERIOD.

The homestead period may be called the classic period of American country life, made so by our literature. Whittier in his "Snow Bound," Longfellow in his "Evangeline," Will Carlton, J. Whitcomb Riley and many more have immortalized this period. It supplanted the pioneer age soon after the first settlement and gradually moved westward until in our middle west it became predominant from 1835-1890, according to Prof. Ross. This is called the homesteader period because it was the golden age of home building and home influence. The name itself is suggestive—home-stead—home-stand: the stopping place—where one stands his home. The first characteristic of this time was that the homesteader owned his farm, procuring it from Indian or Government. In a measure the first period and the second overlap; the virtues of the former become intensified in the latter; the morals cleaner, for permanency of home tends to stability of character, and only as life becomes deep-rooted can there be fruitage.

The homesteader also reaped the first values of the soil and did little to maintain its fertility. Just beyond him toward the west was other virgin soil, and he could better afford to move and build another home than to remain and build up the land by fertilizing; hence he became, with all his virtues toward society, a "soil-miner," robbing the earth of its strength and leaving to his children a farm poorer in soil values than when he first possessed it. As a result, we have the sad stories of "abandoned farms" in some parts of the east.

The homesteader developed the group life to its full. The household was the unit, and though there was the most intense interest, sympathy and co-operation in the home it did not reach far beyond the immediate neighborhood. Truly there was co-operation in producing, but the father held and controlled the purse strings. This was the age of homespun. A Chinese Wall might have been built about one of these homesteads and the simple needs of its dwellers would have been supplied therein; spinning and weaving, building and home keeping were all known, for they were practiced and taught to the children. So intense was this home interest, that it was carried over into the religion of our time, and now the family altar and the family pew are its characteristics.

The homesteader's social life had many outlets, so there was not much need for providing for this side of his nature. The year



had its wealth of such features as sugaring-off, barn-raising, threshings, apple-parings, husking-bees, butcherings, quiltings, spelling-schools, and singing-schools which kept the neighborhood busy in a social way. In business relations the homesteader was zealous and competitive and lacked much in business morals the honesty of the board-of-trade man whom he despised. The homesteader, very proud and careful of his independence, became the victim of combinations and corporations, which proved his undoing, and robbed him of his share of the profits in the markets of the world.

There were four peculiar institutions of this period. The country home was the first, and stood above all others. It gave splendid training to men and women who became nation builders and whose stalwart self-reliance made them leaders in world movements. The country store was the second. The store-keeper was often the sympathizing friend, and leader of the people. He usually kept the post office where news was exchanged, and men spent their leisure time. The country store, packed from cellar to garret with goods, supplied the needs of the country folk, and took in exchange everything the homesteader cared to sell; thus the country store was the only link between producer and consumer. The rural school is the third institution. Within the home itself came all training along moral and social lines, the household arts, and even religion and ethics. There was only the simplest teaching and the crudest equipment in the one-room rural school, including the three R's in an ungraded course. So much was taught in the home that the school was secondary.

#### THE BEGINNING OF PIONEER CHURCHES.

The country church is the last of these institutions. As it is the most sensitive to material and social movements, dealing as it does with the ideal and spiritual, the church of this period was a family affair and consequently many competing churches sprang up. The fact that the homesteader was selfish socially, explains the denominationalism of this period. May I illustrate this by a bit of family history? When my people came to Ohio a century ago from the Green Mountains of Vermont, a half dozen families came, all related and from the same church and with adjoining farms which they virtually hewed out of the forest of the Western Reserve. How natural that the church they organized should be Presbyterian, the same as the one back yonder in the east. A few miles to the east settled a colony from Pennsylvania, and they formed a Quaker church. On the other side a Methodist church was built, and thus religion grew, until we had many competing churches. Near my last pastorate is a rural church known as the Harshbarger church, which is largely a family affair, and those not relatives feel almost out of place in its membership. In a survey by the Presbyterian department of Church and Country Life, a community in Pennsylvania was found where within a radius of four miles there are twenty-four churches. Owing to the social life in the homes, there was little need of it in the church, hence the church became severe and stern and worship was its only object. It became merely a pulpit with a roof over it, in a dingy unattractive room. Many of the churches had the high partition separating the sexes and in some old churches this old custom still remains. The economic condition of the homesteader demanding his money for other uses, affected the church so that salaries of ministers were meager and made up largely of donations. In one of my mission churches they were formerly able to sustain a



pastor on a salary of \$60 per year and a donation. One trouble with the farmer of today is that he thinks of his minister's salary in the terms of the homesteader period of simple needs, cheap prices and donations. The homesteader period still prevails in many portions of our country, just outside the beaten paths of travel and commerce. Only this year we found a church in the Ozarks paying the minister \$20 a month with occasional donations.

The period of the exploiter in which we are now living began in the middle west country about 1890. The application of steam to industry brought the age of industrialism, which in turn produced the exploiter. Within scarcely more than a generation, improved machinery, transportation and communication have changed the world, and in no place has it wrought greater changes than on the farm. Within the memory of men now living, greater changes have been wrought in the way of the production and marketing of farm products than in all the generations preceding. In the childhood of these men, grain was harvested with the sickle, much as it was 3000 years ago when Ruth gleaned in the fields of Boaz, while the slow moving wagon carried the harvest to market. Now with improved farm machinery, railroads, steamships, and electricity, one wonders what the next invention will be.

Industrialism has affected all life. It has made possible the great cities; released large numbers of men from farm labor and put them in factory, and with its touch of gold changed the old home into an article of merchandise, and placed the dollar mark on the front gate. This age of improved machinery makes it possible for one man to do the work formerly done by four. In 1870 there was one farmer to every 17 acres of tilled land here in America; in 1890, one farmer to every 26 acres. A friend on an Illinois farm now has three men where his father needed thirteen.

The movement of first settlers, which for a half century swept westward over the Mississippi valley from the east, at last touched the shores of the Pacific, and then there were no more 160 acre farms from Uncle Sam as a free gift to homesteaders. Now seekers for cheap land are turning back to the abandoned farms of the east, and the spots overlooked in the flood tide westward. The rapidly advancing price of farms resulting from this greater demand, only intensifies the methods of the land speculator and adds to the restlessness of the age. The freedom of the slaves in the south, and land exhaustion in the north have also had their part in developing this era of restless readjustment and dissatisfaction.

The effect of this exploiter age on social institutions has been destructive. Or, perhaps, we should say that these institutions have not been able to adjust themselves to the rapid and revolutionary changes. But in the restlessness of this period lies its greatest virtue, since its very restlessness will bring to pass visions for social betterment, as yet unrealized.

#### CHARACTERISTICS OF THE HUSBANDMAN PERIOD.

We see here and there the promise of a 4th period, the period of the husbandman, a "Golden age to be" for rural folks. We read in Genesis 2:15 that "The Lord God took the man and put him in the Garden of Eden to dress it and keep it." In the name husbandman itself we see the meaning. Our Anglo Saxon forefathers gave it. The husbandman was the house-band-man, the man who put a band about the home; the keeper, the conserver; strengthening the home, and leaving it better than he found it. This up-



builder of society and his period will, consequently, be marked by these features:

1. The husbandman will be a scientist; he will know. The splendid army of young people going out from our agricultural colleges are making this possible. This last June more young men graduated in agriculture from a single college than graduated a generation ago from all of them. He will be a naturalist, botanist, chemist, mechanic. His will be the first place in the world, and like Atlas, he will bear the world upon his shoulders. No more will the bright boy from the farmer's home go into some profession, or business, but his training will be for the farm. The greatest business in America will be agriculture. For two reasons this will be true: First, the growing urban and industrial population of our country, all these being consumers, will force the farmer to produce greater crops to the acre. At the beginning of the exploiter age nine tenths of our population were producers. Now but one third produce food-stuffs for the rest. Second, we have come to the end of our virgin soil, so we must by scientific agriculture, make the earth produce more.

2. The husbandman will live on the farm. Because of the high value of land and his greater investments, he will be forced to do this; thus tenantry will be discouraged. The prophecy of Isaiah will come to pass, "Thy sons shall marry thee" (the land).

3. The husbandman will realize his world relationships. The farmer's weakness has always been his independence, so that he is at the mercy of the trusts and combinations in all he sells and buys. The husbandman will co-operate in his business, and so get a larger per cent of the price paid by the consumer, for his products. This co-operation will mean standard of excellence, uniform prices, thus giving him command of the world markets.

4. Last of all, he will realize that his business is a religious one: that "The earth is the Lord's" and that harmony with God's laws means greater prosperity. That knowledge of His workings gives him greater power over nature, and that his duty is to leave the farm, the community, the world, better than he found it. Thus conservation will become a religious fact, and the old word salvation will have a larger meaning, touching not only the soul, as in the past, but body mind, and even the community—nay, even the earth itself, till we have a redeemed earth, lovingly cared for by a redeemed man.

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## RURAL INSTITUTIONS THAT ARE FAILING

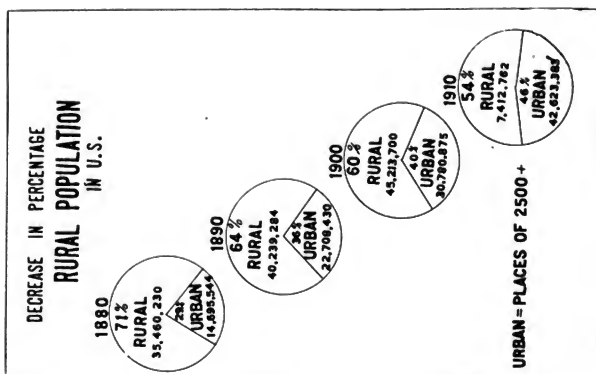
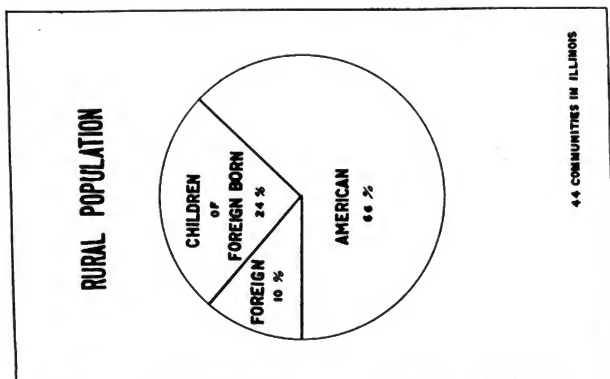
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By REV. CLAIR S. ADAMS.

**I**N THE present exploiter period, a time of re-adjustment, change and restlessness, some of our most cherished institutions have seemingly been torn up by the roots and the question often is: "What will the end be?"

An old Chinese philosopher once said, "The well-being of a people is like a tree; agriculture is the root; manufactures and commerce its branches and its life. If the root is injured, the branches fall away, and the tree dies." During this exploiter period the root has, partly through neglect, been injured; the time and thought of our civilization have been given chiefly to the building of cities and caring for other industries than agriculture, until as Sir Horace Plunkett says, "American civilization has become







lop-sided." Real national prosperity depends on country and city development being rightly balanced. But rural life and institutions have been sacrificed for the sake of city development, and we are suffering as a consequence. The Country Life commission puts it this way: "We have found, not only by the testimony of the farmers themselves (125,000), but by all people in touch with farm life, more or less serious agricultural unrest in every part of the United States, even in the most prosperous regions."

#### THE DISINTEGRATION OF THE RURAL POPULATION.

The first important effect of the exploiter period on rural life is the disintegration of rural population. I do not mean the decline in population of our middle west, for this country will be filled up again. Disintegration consists in the best constantly leaving our farms, and threatening to give us a rural slum as well as a city slum. If a man has a fine herd of pure-bred registered cattle, and he continually sells the best, the herd will surely deteriorate and become inferior. This is somewhat analogous to what has already happened in many of our rural communities, especially in the east. Communities that for generations sent forth splendid men and women are now scarcely able to maintain themselves, so drained have they become of their best blood; thus we are not keeping a proportionate part of our best in the country to build up a rural civilization which shall be comparable to city life and so keep the proper balance for the nation's good.

Again, the rapidly growing tenantry problem is affecting our population. In 1880 25 per cent of the farms in the United States were operated by tenants; in 1890, 28 per cent; in 1900, 35 per cent; and in 1910, 37 per cent. This increase is too rapid. It means that over one-third of the families who live on the land are not attached to it or to the community by heart-ties and mutual interests. Not speaking disrespectfully of tenants, we must say that such a large percentage of country folk roaming about, without the feeling of community spirit, is dangerous. We all know how great are the temptations to let down the bars of restraint, morally and religiously, when away from home on a vacation. When this is the normal life of those who are tenants, we see what a danger there is of a trend toward moral decline.

#### THE TENANT'S RELATION TO THE SOIL.

Worse still is the tenant's relation to the soil for since the one year lease is the rule, the tenant will get out of the earth all he can, "mining" it in fact. He ought not to be blamed if he does not enrich the soil by fertilization or stock raising that his successor may be benefited thereby. The result is that through the central part of Illinois where 52% of the farms are in the hands of tenants, soil is losing in fertility though advancing in price, and stock raising is decreasing. One can travel on the cars for miles and find that the only stock on the farms is an occasional Durham bull on the tobacco sign.

Dean C. F. Curtiss of Iowa State College says, "The American system of farm tenantry is the worst of which I have knowledge in any country." The high price of land makes it almost beyond the possibility of the tenant to buy a farm in the midwest, so that we are rapidly coming to have a class of hereditary tenants who may deteriorate into peasants or serfs. What makes the tenant's condition even worse is that he has no laws for his protection. The tenant system being contrary to our traditions and history, it did



not enter the minds of our law-makers to provide for this class. In Denmark a tenant can leave a farm by giving one year's notice, but the landlord must give five years' notice to his tenant if he wants possession of his farm. We need some laws to regulate tenantry and save both soil and soul thereby.

#### THE RETIRED FARMER.

With this tenant phase of the population problem must be considered the retired farmer who has helped the tenant class to develop in this country. If the tenant's position is discouraging, what shall we say of the retired farmers, nine-tenths of whom move to town or city, and retire from active life? Remember, we do not question the right of the farmer to retire from the farm, after years of toil in building up a farmstead out of bare prairie or pathless forest, but we are speaking now of the influence of such a class upon the character of our rural population.

We do not hesitate to say that often the farmer who retires to town or city deteriorates and retards rural progress. In all our towns and smaller cities of the middle west the retired farmer is found. Many times he is unprogressive and he fights town improvements. With an income dwindling more rapidly than he expected, he becomes pessimistic; too old to adjust himself to town or city ways of life and thought, he feels out of place. He feels the restraint of a forty-foot lot and the dust and the clamor of the street all combine to make him unhappy and long for the soil and free open country. Like the "man without a country" he at last dies almost among strangers, away from the old hearth-stone and the graves of his kindred. Granting that the next generation keeps up interest in the farm because of attachment and love for the old home, its children with no such bonds to tie them to the soil, are likely to despise the birthright, look upon the farm only as a means of income and become landlords in deed and in truth.

Contrast this rather inglorious end of a farmer's life with another picture which may occasionally be seen, and which is "a more excellent way." This farmer retires from the active duties of the farm, but not necessarily to move out of the community, even though he gives way to his son or a tenant. With the same money that he would put into a home in town he builds a much better one, or modernizes the old home, and builds one for his successor on the farm. In the midst of the old environment he enjoys his friends, has time for visiting, reading, travel, and throws into the school and the church life of the community the rich experience of the past and helps to strengthen them. Through counsel and wisdom that has come out of his long life this retired farmer finds himself the community's best asset and his life grows broader and richer, and his vision greater. If he is the ideal farmer, the whole community will look to him in times of trouble and sorrow and he will be to it a father of the faith, until his life goes out into the larger life above. Have we not reason to believe that with improved roads, and modern conveniences, this is the larger service retired farmers can render to the open country in building up her institutions?

#### AGRICULTURAL INTERESTS LOSE RIGHTFUL PLACE.

Another way in which rural institutions are failing is that agricultural interests are not holding their rightful place in our country as a whole. The rapid expansion of industrialism has consumed the ideals and energies of our people till those living in the open



country have been sorely neglected. More particularly, however, this failure has affected the institutions which have peculiarly marked American rural life—the home, the store, the school, and the church.

### THE HOME.

In the golden age of the homesteader period, the home was everything, the center of thought and of labor and the throne room of family affection. Out from the cheering warmth of its hearth-stone flamed the love that bound the members together in mutual helpfulness. There were in many homes, too, the family altar and reverence for things holy and eternal. In Burn's "Cotter's Saturday Night," we get the picture.

"Then kneeling down, to Heaven's Eternal King,  
The saint, the father, and the husband prays.

Here in the home were also the simple and innocent plays and games indulged in as neighbors visited each other, thus brightening and cheering the monotonous lives of these pioneer folk. There was no "I am better than thou" spirit, for these families had come through common experiences of poverty and need, incident to the early pioneer's life, and were bound together in a strong community spirit. The home of today, even in the rural communities, has the dollar mark on the front gate for commercialism has invaded its sacred precincts. The trades and crafts taught in olden days by parents to the children have been superseded by distant factory and workshop, and as a result the "ready to wear" packages are delivered at the door.

The virtues stamped early upon the life about the family altar are only traditions; while the members of the family, especially the younger people, look no longer to the home with its loving ministries to furnish the cheer of song, and the play of life, but hie them away to the town or city when the day's work is done, where dance hall, picture show or club furnish amusements, often questionable, and always lacking the old time home atmosphere of purity and love. Through these "Away from home" attractions, our young people are being drawn from the hearth-stone and the old fashioned rural home is passing away.

### THE STORE.

The old time country store has no place in this age of industrialism and exploiting. As civilization advanced, the class of men who exchanged the commodities of life, increased. In the homesteader period, out of which we are passing, there was only one agency that stood between the producer and the consumer, and that was the country merchant. The country store was a veritable department store where the farmer could readily exchange his produce for the simple needs of his household. The postoffice was usually here and here men of the community gathered for fellowship, bargaining, games and conversation when the day's work was done or in bad weather. Here was also the place of argument and debate and many the statesman who first tried out his powers of party zeal during a political campaign with a dry goods box as his rostrum and a company of fellow countrymen as his assembly. The patriarchs of the community here settled the great questions of religion and statesmanship. The country store was at once club, debating school, department store, market place, real estate office, rest room, news exchange and political headquarters. No wonder the storekeeper was usually the leading man of the community



and his word the final authority in questions perplexing and unknown.

There were other commercial enterprises besides the country store in the community. The grist mill, sometimes the woolen and carding mill, the cooper shop, the carriage shop, and the blacksmith, who also made farm implements, furnished employment to those who needed it. Out from these small shops and factories went forth a line of hand made, honest, substantial goods that modern factories do not equal, and happy even today is the man who still possesses in his home some of these selfsame goods.

The gradual concentration of business into the larger towns and the combinations of labor and capital closed the shops and factories of the country villages and has robbed the country store of its old time place of importance. Too often the rural home has displaced the Bible for the store catalogue of unabridged variety, and goods are shipped in by the carload, thus passing by the country merchant who is entitled to a living in the community, but who cannot compete with these large city corporations, who are "mining" the trade of the rural communities just as the soil is being "mined" and destroyed between the upper and nether millstones of tenantry and absentee landlords.

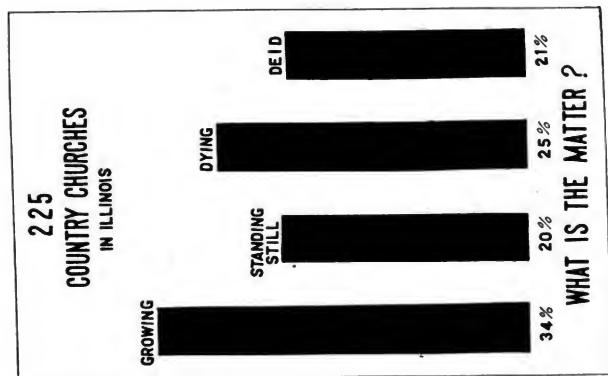
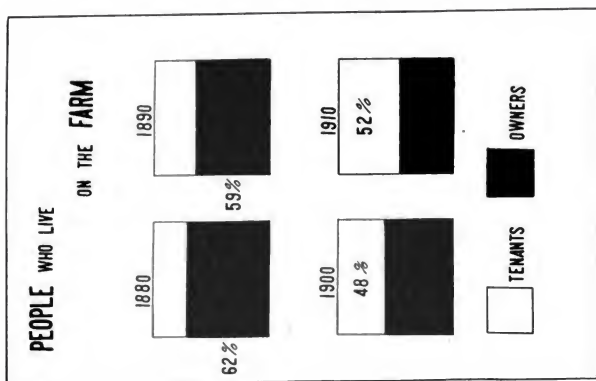
#### THE RURAL SCHOOL.

The industrial age has not affected the rural school as it has the home and store, but it has made necessary a readjustment which has not yet been worked out. In the older day so many virtues were taught in the family home, so diverse the arts and crafts handed down from parent to child, so painstaking the apprentice system, so necessary that the child get quickly to the task of helping in the subduing of the earth, that there was little need of other instruction in the rural school, save in the three R's—reading, 'riting and 'rithmetic,—and that in its simplest form. With the change in all business and social relationships, the rural school has failed to hold the place in life training which formerly belonged to it. Its curriculum is too narrow for the new demands and so the district school which was once our pride is now in many places the disgrace of the country side. Untidy grounds, dilapidated building and a cheerless interior, with a smoky stove, greasy blackboards and broken windows, bear silent witness, in many a community, of the waning interest of the people in education. Consider with this the meager salaries paid to teachers, the actual opposition of absentee landlords to material improvements, the passing of the old academies which were the pride of the early days and a part of the old school system, and there is a serious, discouraging situation. When these unsatisfactory conditions are contrasted with the fine, modern schools in the towns, where surroundings are attractive and convenient, it is to be wondered at that young people are eager to go to the towns for their education? This town-ward-pull draws many a leading family from the farm, never to return, while a tenant takes the place in the old home.

#### THE COUNTRY CHURCH.

The country church, like the rural school, has failed to adjust itself to changing needs. Somewhere we once saw a cartoon picturing the various institutions of the present day as living things with legs, marching ever forward in a great procession. Improved farm machinery, modern transportation facilities, rural routes,







parcel post, telephone, all were there, keeping well abreast of each other, marching to the music of the band Progress. Lagging behind, were just two institutions, the rural school and the country church.

Unpleasant as the fact may be, churchmen must admit the fact discovered by investigations that the country church is failing to hold the place of influence and power it did in the olden days. It is not our place here to give the reasons, nor to prescribe the cure, but only to state the fact. Mark you, we do not criticise the church for not keeping up in these days of readjustment. This changing age has touched all institutions, and each has, with more or less rapidity adjusted itself to the change, but the church has to do with spiritual ideals and visions which are found only in the deepest parts of human nature, in the very heart of hearts, and these cannot be changed quickly. These depths are the last to be reached, for "With the heart man believeth unto righteousness." That there has been a failing is only an indication that the depths have not been reached, but when they have been the country church will awaken to a new and larger place than ever before. That there is a lagging behind other institutions is only to be expected.

A conservatism which is a brake upon too rapid progress, is, after all, not a bad thing for the world. When the country church realizes that orthodoxy does not consist in the method of presenting the message of God, and that religion has a larger field of action than the soul, and that even the soil is to be saved, for "The earth is the Lord's and the fullness thereof," then and only then can we truly say "Old things have passed away; behold all things are become new."

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## THE CALL OF THE CHURCH TO A GREAT TASK

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BY REV. CLAIR S. ADAMS.

**W**HAT is the task to which the country church is called?

In brief, is it not to revive all of our rural institutions, and to restore rural life to its rightful place in our country?

This call might be expressed in the words of the Master when He preached that Sabbath day in the synagogue of His old home village of Nazareth, "He hath anointed me to preach the gospel to the poor; he hath sent me to heal the broken hearted, to preach deliverance to the captives, and recovering sight to the blind, to set at liberty them that are bruised, to preach the acceptable year of the Lord."

The task is great because civilization pre-eminently depends upon agriculture. Since food is necessary to sustain life, we are dependent on the soil. The earth is the great mother, giving from her bosom the food for the world. A few months ago the threatening strike in Birmingham, England, revealed the fact that all of the stores and storehouses in that great city could furnish food for only three days' living. Had the strike been prolonged and no provisions allowed to enter the city, starvation would soon have



been inevitable. Agriculture has to do with the providing of food, and as the world population becomes more largely urban, it is more and more dependent on the things which mother earth produces.

In Roslyn Chapel, Scotland, there is a famous piece of tapestry, wrought by the patient and skillful hands of the monks in the middle ages. There are four pictures in the tapestry. The first is that of a king seated upon a throne, clothed in royal vestments, with the crown of authority on his head, and the sceptre of dominion in his hand. Underneath are these words, "I rule over all." At the right of the king stands the sword, a soldier, pictured as ready for battle, full armed, with helmet on his head, his shield by his side, drawn sword in his right hand, and underneath these words, "I fight for all." At the left of the king kneels the third figure, a priest, robed in holy vestments, with head bowed and hands clasped in the attitude of prayer, and underneath these words, "I pray for all." Beneath these three pictures is the fourth, wrought in larger form, a sturdy farmer with head bared to the sunlight, sleeves rolled up for labor, and face open to the new day; at his feet are the crude implements with which he tilled the soil, and underneath these words, "I pay for all."

#### HUSBANDMAN'S STANDING DETERMINES CIVILIZATION.

The government, the school, the church, all rest upon the farmer's shoulders; civilization depends upon agriculture.

The degree of civilization many times depends upon the standing of the husbandman. In China where agriculture has been the chief industry for centuries the farmer has had no citizen's rights. In Turkey he has been the "Fellah," while in India he is bound by the hopelessness of the caste system. In Russia he is the serf, and until recent years bound forever as a slave, the property of the lord on whose soil he toiled. In southern Europe he is "The man with the hoe," as Millet pictures him, low-browed, muscular, his face toward the ground, hopeless and alone. In northern Europe he is the country gentleman and squire, the influential man in every community; the strong and substantial backing of the nation; the conserving brake upon anarchy; the very heart of oak on which the nation's future hope and perpetuity depend.

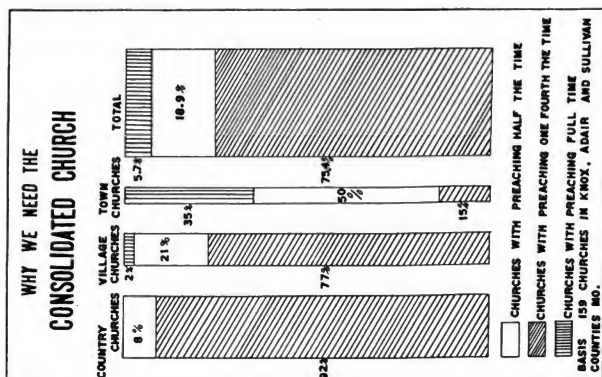
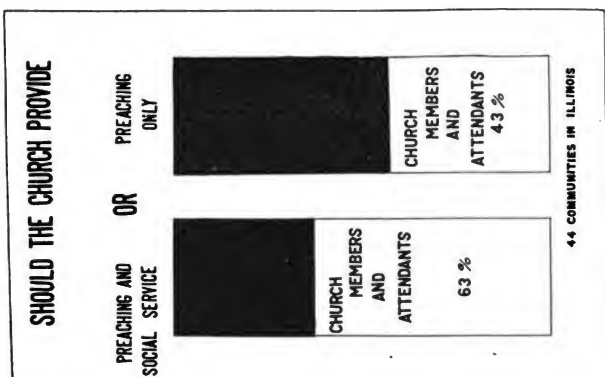
#### THE CALL OF THE COUNTRY TO THE CHURCH.

The general decadence of rural institutions, described in a former lecture; the decreasing fertility of the soil; the city-ward migration of the best rural life; the abandoned farms, decaying schools and dead churches, all call for the consecration of our best endeavor to the great task of making here in America a rural civilization equal, if not superior, to our city development. This great task is a call to the church, since it stands as the fountain head of real life, and to this task the rural church must give heed.

The church has the rural field to itself. The city church and minister have to divide time and effort with the many clubs, societies, lodges, and associations which have high moral and humanitarian ideals, but not so with the rural church, for such organizations are rarely found in the open country, hence the opportunity and the responsibility for service is great.

The church has supplied in the past more than three quarters of the leadership in all lines of activity. Out in the open country this leadership is in embryo. Many a boy and girl there are waiting to be called into active service. They should be trained and







given the vision which will make for righteousness in the world. Upon them may be stamped, while life is so easily impressed, the image of the King. Here in quiet pastures and beside still waters they should be trained to transform the "Vision splendid" into vital energy and achievement.

#### CHURCH MUST LEAD BECAUSE GOD MUST LEAD.

The rural church must lead in this movement, must answer this call, because in times past it has given the highest ideals to the world and has ever been the leader in the uplift of mankind. There has never been a movement for the bettering of the race that has not had as a leader a soul illumined by God. The mission of the church has ever been to teach men that they were made in God's image, and for His glory. Hence man is the "upward-looking one" and not "The man with the hoe."

The three civilizations which have influenced modern life are Greece, with the love of knowledge and beauty, symbolized by the head; Rome with her grasping power and law, whose symbol is the hand; and the Hebrew, companioning with Jehovah, spiritualizing the material, whose symbol is the heart. Of these three, the last is greatest, and most needed for our generation and country where success is measured by the material, since "The things which are seen are temporal; but the things which are not seen are eternal."

#### AGRICULTURE AND RELIGION CLOSELY ASSOCIATED.

The bible is the greatest out-of-door book in the world. On mountain peaks God talked with men, and from shepherd's cote He called Abram and Moses. All Israel He called from the cities of Egypt to the "Land that flowed with milk and honey." God touched the hearts of men and called them from threshing-floors, and plowing fields; from shepherding and vine-dressing, until transformed by His touch they became mighty kings, soul-stirring poets, great statesmen and fearless prophets, bringing God's message to the hearts of men, and calling the world to the highest ideals and to ministering service. In the new dispensation it was the same. Not to the men of crowded Jerusalem, nor to Herod and his court did the Angelic message of Christ's birth first come, but to the quiet shepherds on Bethlehem's hills. Jesus lived for thirty years in the little hill village of Nazareth, a country village we would call it, and there in God's out-of-doors "increased in wisdom and stature, and in favor with God and man." How He loved the fields, mountains and lake. From these He drew His illustrations, and flowers, birds, seed and harvest gave Him the texts for his marvelous parables and sermons. His disciples were nearly all taken from fishing-boat and hill-side.

The gospel had its most glorious advancement among the country folk. From the cities came the opposition, and at last a city mob cried out for His blood, and drove a city judge to deliver Him over to be crucified on the cross. Under the oak at Mamre Abram built an altar unto Jehovah, and from that time till this there has not been wanting somewhere in the earth an altar from which the incense of sacrifice and prayer have gone heavenward. Cities have risen and fallen; nations have come and gone; civilizations have changed, but always in the quiet places of the earth, away from noise and strife, and turmoil of competition, hearts have been true to God.

The bible is truly the farmer's book. We talk today as though our scientific agriculture were a new thing, but back in the penta-



teach we see God's laws to protect the field, rotation of crops, breeding of cattle, fields resting one year in seven, land-ownership, inheritance, the absence of tenantry and all that we mean by the modern word "conservation." Here we learn that "The earth is the Lord's and the fullness thereof" and that God's command regarding the earth was that man "dress it and keep it," and not waste or mine it.

The farmer, above every other man in the world, is a co-worker with God. No business as much as his depends upon God's laws of varying seasons, chemical changes, physical forces, life in all forms, whether vegetable or animal, seed-time and harvest. If the farmer acquaints himself with the laws of the creator, he becomes religious; indeed the successful farmer must be religious, since God rewards in harvest proportionate to the obedience to His laws. Dishonesty toward soil or seed brings its just decrease and failure.

#### OTHER MEANS THAN CHURCH HAVE FAILED.

The rural church must answer the call to the task of making a splendid rural civilization here in America since all other organizations have seemingly failed and today all agencies are looking to the church to lead out in this new movement. The Grange, the "wheel," the Farmer's Alliance and clubs have come in very many places, and also gone, without accomplishing much. It is the great opportunity of the rural church to get such a vision of religion that she may become the leader in this new rural life.

We need have no fear that in this broader interpretation of religion we will become less orthodox; in fact we will become more so and put the church in the place that was formerly hers. The trouble with the ordinary meaning of religion is that we confine it to the few hours worship of one day in the week; to a place of prayer and praise; to a pulpit with a roof over it, called a church, while virtually there is no separation of sacred and secular. We believe that God is interested in everything that pertains to our well being, that He brings joy into the midst of the world's toil and sorrow, that He keeps us in His loving care always.

With such a meaning of religion, we see the bigness of the opportunity which is ours. We need not fear, for when the church has in past centuries made its strongest impress on the world, it has been when it had this larger vision. Witness the Apostolic church—the reformation period, Savonarola in Florence, John Calvin in Geneva, Martin Luther in Germany, puritanism in New England, always the church getting back to the common people; always interpreting God in simpler and broader life. The puritanism of New England had this broader vision of religion for which we plead, for the church was first in every movement for the uplift of the people. The house of worship was called the "Meeting house," for here, aside from the religious services, the town-meetings were held and it was often here the men gathered on elections to cast their ballots. An elderly woman in my last pastorate, formerly of Massachusetts, told of the feeling of uneasiness which came over her old home town when they took the ballot-box out of the church on election day, and with that act eliminated the pastor's prayer at the opening of the polls. Not a bad idea, that of making the ballot a little more sacred and the power to vote a holy responsibility. Perhaps we might improve our politics if we got back into the old paths again.

Finally, the glorious victories of the cross in foreign lands should be an incentive for the rural church to answer the call to



this great task, there where inspirational lives are being lived, and pentecostal power is being manifested. To hospitals, schools, printing-presses and churches we point with pride. Recently a young man from one of our agricultural colleges went to the heart of Africa, under the direction of one of our foreign boards, with a car-load of the latest farming machinery and the best of stock and seed, to teach farming to the natives. If it is orthodox to do this in the name of Christ, on the foreign field, and we are glad for the wisdom of the men who have directed the plans which have made such teaching possible, it is quite as orthodox to do similar service at home, for so tremendous is the task, that the church must use every effort to reach men and lead them back to God.

This larger vision of religion will rally the membership, reach the uninterested and restore the rural church to its rightful place in every community. The enlarging of our meaning of religion, by this varied ministry, not as an end in itself, but always and everywhere to bring men to God, in loving partnership and service, will make the task light, and bring again a "new heaven and a new earth."

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## THE PLACE OF RELIGIOUS INSTRUCTION IN RURAL DEVELOPMENT

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By REV. CLAIR S. ADAMS.

IT IS interesting to note how closely religious teaching has been linked with the rural development of our civilization. The oldest music of our race was religious, and the earliest hymns of agriculture were sung by our Aryan forefathers on the tablelands of Asia. Of the three great feasts of ancient Israel two had to do with the harvest; pentecost, or first-fruits, and tabernacles or end of harvest. The great religious feasts of heathenism have a very close relationship to seed-time and harvest. Food being so hard to obtain, and the contest for mere existence so fierce, the creator's help was invoked in the warfare for life. The mythologies of ancient Greece and Rome had their origin in the forces of nature and there was the deification of earth and sun and other physical forces that helped or hindered man to live. Christmas and Easter are of the same type, the one marking the turning of the sun back again toward the zenith, and with its coming, the longer days, more light, and more warmth to earth and the banishment of cold and darkness; the other the festival of the awakening of life from winter's sleep into the springtime, the resurrection of flower and tree and seed. Our peculiarly American religious festival of Thanksgiving is the Jewish feast of tabernacles over again, the end of the harvest and the songs of the reapers as the last fruitage of the field is gathered home.

Rural development must be of the highest type to meet the ideals of present day endeavor. The best rural homes, schools, farmsteads and churches are necessary. Rural civilization must completely satisfy every physical, intellectual and spiritual need to produce the very highest living in the country, and to mark the overplus of life which goes out to bless our cities and towns



the very best. All this is required in the rural development of our new age.

Religious instruction is largely the present-day theme of educators in their conventions. They seem to realize, before it is everlastingly too late, that education minus religion is defective and often destructive; that the exclusion of bible reading from our public schools is a mistake. Through institutes and study classes they are trying to counteract this evil. The church also through graded lessons, assemblies and summer schools has taken advantage of this present day of opportunity.

#### OPEN COUNTRY MUST SAVE ITSELF.

The future betterment of rural institutions must come from the open country itself and from the life there which has inherent qualities of leadership, only waiting to be awakened. Our rural people are able financially to help themselves in this development, notwithstanding the fact that millionaires are buying large tracts of land and thus taking vast amounts of money from the rural communities.

There are three agencies of leadership in the development of a rural life which will make a balanced civilization: the home, the school and the church. Let us briefly notice the opportunities of each in this development.

The home ought to be first, but with the restlessness of our age, the growth of tenantry, the removals to town, the young people going away for education, the city pull, the passing of the family pew, altar and even grace at table, the home is becoming less and less a place of moral and religious training. The home is gradually looking more and more to the school and church for such instruction.

Two reasons exclude the school from taking a large place in rural development through religious and ideal teaching. The first is the meager equipment of the rural school. Sixty-four per cent of all the children who go to school in the United States never go to any other than the one-room rural school, and the great majority of them never finish the eighth grade. The growing illiteracy in many places; the poor, unsanitary buildings and surroundings; the bare and disorderly grounds, all work against high moral and ideal culture in the rural school. The second reason is found in the course of study which excludes religious instruction more or less. In some of our states, the Bible is not allowed to be read. Teachers are sometimes irreligious and their influence over children is bad. There are leaders in rural life development who would make the school house the only exponent of ideal and moral culture, and the community center, but such development would be likely to be found wanting in the true elements of such culture, since moral and religious ideals come not from the logic and reason of man; not from the head, but from the heart, from God's revelation of such truth through His word. Any culture that leaves God out will in the end become grossly materialistic and atheistic and history will repeat the sad story of anarchy and lawlessness that always follows.

Carver says, "Irreligion is born of man made cities," but religious ideals are still found in country places. Traditions and customs have a larger place in the country than in town. The glory of past times when the church had the family pew, and the home the family altar, still hovers over the rural community, thus making a more favorable opportunity for the rural church to enter



in and possess a mighty heritage. The very loneliness and quiet life of rural people produce religious thought and culture. The hours of meditation which come to the farmer, tend to retrospection and seriousness which creates a religious life. The great spiritual leaders of all times, and the men who have been moulders of religious and moral ideals have been country born and reared.

The environment of God's open country and the horizon-bordered view make the place of religion large in rural development. No life comes so near to the creator's plans and purposes in nature, as the farmer's, and no life is so dependent as his on changing seasons and the Father's watchful care and providence. He is in partnership with God in producing the food for the world. He is in the midst of God's constant miracles of life, and breathes their spirit in the atmosphere and sees God's handiwork on every hand. Hence it is that it is left to the cities to produce agnosticism and infidelity. In fact the forces which destroy civilizations, come from the lawless, ungovernable mobs of the cities while the forces which build up the nation come from the country. From here has come the leadership of the world.

This being true, how important then is the moulding influence of religion on the future reformers and leaders of our nation. To preoccupy the soul, before sin makes large inroads in the life; to fortify the character before wrong habits destroy; to strengthen the whole realm of life and make it "four-square to the world," is the highest privilege of the rural church, and home.

The rural church, more and more as the teacher and less and less as the preacher to the world, must be the greatest factor in the forming of character in the vigorous lives which the rural regions must furnish for the world. Its province and privilege is to touch young life at the fountain-head, impress true ideals and noble purposes, and so make for righteousness, and the highest life, even the eternal, where man shall be in perfect accord with God.

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## THE NEW FARMER AND HIS HOME

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By REV. CLAIR S. ADAMS.

DEAN Butterfield in "Chapters in Rural Progress" thus defines the new farmer:

"All farmers may be divided into three classes; there is the old farmer, there is the new farmer, and there is the mossback. The old farmer represents the ancient regime; the new farmer is the modern business agriculturalist; the mossback is the medieval survivor. The old farmer was in his day, the new farmer; he was up with the times, as the times were then. The new farmer is merely the worthy son of an old sire; he is the modern embodiment of the old farmer's progressiveness. The mossback is the man who tries to use the old methods under the new conditions; he is not up with the present times, but back with the old times. Though he lives and moves in the present, he really has his being in the past."

With this new farmer and his home this discussion is to deal. Ex-President Roosevelt thus sums up the matter in his report of



the rural life commission; "Better farmer, better business, better living." This last, "better living," contains the other factors, but the home has a mighty influence on the "better living." Home is the very center of it all; present us better homes, and "better living" will be the greatest force in keeping our young people on the farm, and making them contented and happy.

The home means more to the farmer than to any other man, for no other business is so closely allied to the home and to the soul as his. There are three reasons why this is so.

First, the farmer cannot pick his home as other men can, but must live with his work. The merchant or professional man may live far away from his place of business or office, for there is no relation between his place of abode and his place of business, but not so with the farmer. Modern diversified farming on high priced land requires that the farmer live with his job. Some rural landlords believe that we will have farm villages in this country, as in many parts of the old country, but conditions are different here in America. Farm villages were the outgrowth of feudalism, where peasants and tenants had their homes clustered about the hill whereon the castle of the lord of the manor gave protection. But our traditions, the independent spirit of our life as a nation, and our vast expanse of rich agricultural land are all against the village idea and in favor of the farmer living in his own home on the farm. We believe the farmers will live on their land because this is the traditional method of agriculture in America. Quoting again from Dean Butterfield: "Not our cities only will suffer if we neglect rural upbuilding, but our whole civilization will decline and fall." We must then place large emphasis upon the "better living" which has its center in the better home.

Second, the home means more to the farmer than to anyone else because the home is the moral check and monitor of life. Van Dyke, in speaking of America, says, "Moral detachment is apt to make a man lose himself much more than to help him to find himself." The home is the place of ideals and of restraints. The large place that the ancient Jew held in the civilization of the world was because of the unique character of the Jewish home. The school might train the intellect; the temple might give the conceptions of Jehovah and religion, but the home gave the moral and the spiritual tone to life. You remember how Ben Hur's mother speaks of the influence of the Jewish home when her boy was almost weaned away from the Jewish ideals by his contact and fellowship with the young Roman. It is just this moral check that our homes must have upon the lives of the coming men and women. We are not speaking reproachfully of our tenant class, but the man who owns the soil and home will be more careful of his moral life than the man who is only there for a little while and then passes on to some new home. And so it is that wherever tenancy prevails, whether it be in the open country or in the crowded tenement district of the city, we find that moral conditions are not as favorable as where people own their homes, and that a permanent home is more apt to be the center of moral, spiritual and physical restraints.

Third, the home means more to the farmer than to any one else because farming, above all other occupations in life, is co-partnership. It is the most social of all lives; it is the most social of all business. Every member of the family has a place in the partnership. As soon as the boy and girl are able, they have their chores to do, which is their contribution to the common



work of the home and farm. As they grow older, larger responsibilities are put upon them until when they come into full maturity, their lives have been rounded out by training in all the various kinds of farm work. Perhaps this early responsibility, this early regularity of work not dependent upon the weather, or inclination, but the continual responsibility that is the part of child's early training, is the reason why the farmer boy going into the city steps right into the place of leadership. Henry Wallace says, "The conservation of rural manhood will determine the stability of our civilization and the permanency of our government." Dean Liberty Bailey thinks that the American farm home is not passing away as some would lead us to believe, but that it is passing through a period of readjustment and that out of this will come three things that will distinctly mark the rural life of the future; first, the homes will be more convenient; second, there will be more labor saving devices, and third, the life will not be a copy of the city or town life, but will be distinct in and of itself.

#### THE ESSENTIALS OF HOME BUILDING.

Let us consider first the material home, the building of brick or wood, which will be the center of this new rural life. The day will come when here in America we will have men who are farm architects, whose business it will be to plan the homes on the farm and the buildings about them, and we will have farmers who pride themselves in the beauty of the farmsteads that they establish. Already in our agricultural colleges there are specialists who will plan our farm home for us, in relation to the buildings. Landscape gardeners will lay out the lawn and will take the native trees and shrubs and beautify the hillside whereon the buildings are placed.

Too often, some beautiful rural building spot and perhaps a commodious house are spoiled by an unattractive barn that occupies the foreground, or by cattle sheds cutting off the view of some beautiful landscape. Of course our pioneer fathers had a mighty task in conquering the soil, building roads, draining the land, and building the schools and churches, and it is not expected that they could think much of the finer and aesthetic qualities of life that go to make up the home, but now that the pioneer age is past, the future agriculturists should think much of the beauty of the home, and plan to make it attractive.

The day may come when farmers will name their farms, and a man will be known as he is in Scotland, not by his name, but by the farm from which he comes. It has been a pleasure to find many farms thus named. Over in Missouri where our work has been largely for the past year, we remember one beautiful farm named "Hill Crest;" another "Maple Dell;" another "Oak Lawn." The very fact that these farms are named, creates a certain pride that keeps all the members of the family anxious that the farm may live up to its name and that it may be a beautiful place. All this creates a deep-rooted love that will withstand the temptations of the cityward movement and will keep the boy and girl in God's open country on the farm. This will also tend to farm loyalty and home love, and will help to keep the man from being a rover or a squatter.

The landscape gardener must have a large place in the planning of the home, grouping the buildings in such a way that time will be saved in passing from one to the other, and with sanitation in mind, arranging them so there may exist the most healthful con-



ditions. Most people passing such a farm cannot help but get a favorable idea of the character of the man who lives within and wish to pattern after him. As some one has said, the surroundings of the home are more than the interior, for they are the expression of the owner's thought to every passer by. We naturally expect each house to have its individual type; not to be made from a common mould, as are so many city houses, where one house after another is exactly alike, which would be so inappropriate for the country with changing landscapes, different sized farms and varied surroundings, but as time passes, farms will be marked with an individuality that has been born of thought and love and careful painstaking of those who have lived there.

Let us speak now of the house itself. Too many of our American farmers look forward to the time when they can retire from the farm and go to town, and have a modern home with conveniences. So they put up with the inconveniences and discomforts on the farm today, looking forward to that bright tomorrow. We believe this spirit is wrong for if anyone in the world should have a comfortable modern home, it should be our American farmer, for the home means more to the farmer than to anyone else. Why should he put off until old age the comforts that God meant he should have here and now? Why should the farmer wait until old age has come, and then go into town and at the expense of several thousand dollars surround himself with comforts which he is really too old to enjoy? Would it not be better for him to spend the thousands of dollars on the farm itself in beautifying the farm home and surrounding himself with all the modern conveniences which today are possible in the open country?

#### LACK OF CONVENIENCES A SERIOUS DEFECT.

The farm should have its heating plant, its bath rooms and its water system. We have been entertained in so many homes where these conveniences were utterly lacking. The houses were built years ago before these conveniences were thought of, and though the farmer had grown rich, the family were deprived of all these things which had become the common comforts of life. Who more than the farmer would enjoy a splendid water system in his home? Think of the weary steps that the housewife takes to the pump or to the cistern which may be some distance from the house, or to the spring down at the foot of the hill on which the house stands, and the thousands of pails of water which must be carried into the home throughout the year. Then think how easy it would be to put some water system into the home that would save this awful drudgery. It is just these inconveniences that drive our young people from the farm, for as they visit their city friends and see the homes with modern conveniences and then go back to the coal oil lamp and the water bucket and the wood pile, they say to themselves, "When the time comes that I can have my own home and business, that home and business shall be in the city."

We visited a family this summer, whose beautiful home on the top of a hill was dependent for its water supply on a spring at the foot of the hill, perhaps some forty feet below the house. It was a spring that any farmer would be proud to have on his farm, a great stream of pure water bursting out from a cleft in the rock. Through all the forty years that home had been on the hilltop, every pail of water had been carried from the spring to the house with heavy footsteps that had worn a deep path in the rocks. Think of the thousands of hogsheads of water that had thus been carried! Think of the weary backs that had borne the burden of this



needless toil! As we talked with the farmer about putting in a water system, he said, "Yes, I know I ought to do it." The expense of putting a hydraulic ram in that spring, according to the estimate of the hydraulic engineer, would be about \$50.00 and it would put water in every room in the house. The farmer thinks it economy to put \$150.00 into a self binder, which he uses perhaps two weeks in the entire year, while water, which is used every day and many times a day, some member of the household has to carry from the well or cistern, after having to pump it by hand. Would it not be as great economy of time and strength, and patience to put an equal amount, if necessary, into a water system?

Another requisite of the home is proper sanitation. We ordinarily think that the farmer's life is the most healthful of all lives, and so it should be. In America the average length of life has greatly increased in the past few years. But the length of life among the rural class has not increased and one will find unsanitary conditions, as well as unhealthful, in the open country that would not be tolerated for a moment in the city. In Nebraska, for example, from investigations made this past year in the rural schools, it was found that 80% of the school children were physically defective and a large portion of these were from the rural homes, where unsanitary conditions brought on these defects. Laws are needed to require healthy living conditions in country as well as in town.

#### RICH FARM FOODS ARE HARMFUL.

We ordinarily think of the cooking of our farmers' wives as fine, and it is most excellent. Who like them can cook such splendid meals, and lay such bountiful tables. Yet we realize that many of them need lessons in domestic science, where they may learn the economic and the dietary values of food. We are told that much of what is eaten on the farm is too rich and we know too well of the waste in many farm homes. In Frankfort, Missouri, within a period of two weeks this last fall, there were four deaths of cancer of the stomach and attending physicians said that these deaths were all caused by too rich eating, by living for years out of the frying pan and gormandizing rich farm food.

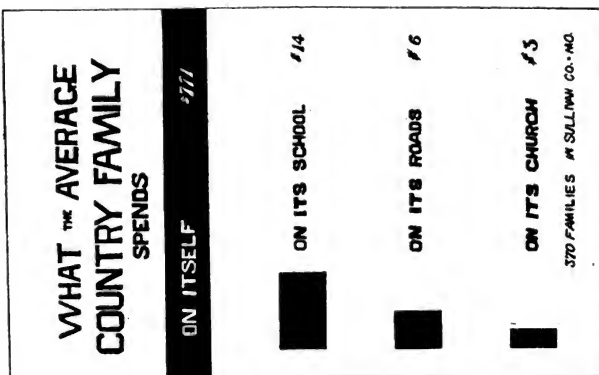
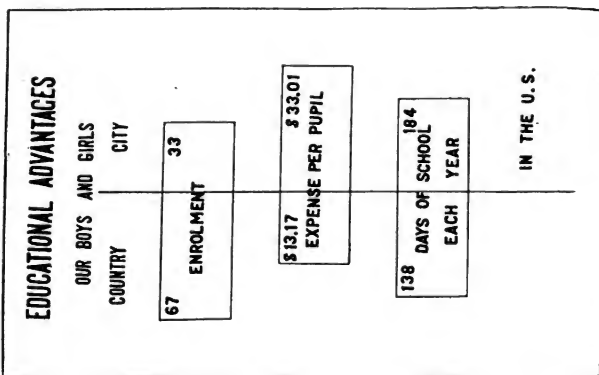
Finally, the farmer's home will not be a copy of the town or city home, only so far as the conveniences may be suggestive, but the life there will be the simpler life, where father, mother and children mingle together in a most beautiful fellowship; where the mutual bearing of the burdens, and the mutual helpfulness will develop characters that will win and hold their place in the world.

Is such a vision too great? Is such an ideal too high for our American farmers? We believe the time will come when instead of looking forward to retiring to the town or city, a place unreal and unnatural for a man who has lived all his life in God's open fields, the farmer will think of making his farm more beautiful and will surround himself and his children with the best things of life. There among the beauties of nature, and in the quiet of his cheerful, happy home with friends near to cheer and none to disturb, he will travel down the western slope of life until

"One morn I missed him on the custumed hill,  
Along the heath, and near his favorite tree;  
Another came; nor yet beside the rill,  
Nor up the lawn, nor at the wood was he:

The next, with dirges due, in sad array,  
Slow through the church-way we saw him borne:  
Approach and read (for thou canst read) the lay  
Graved on the stone beneath yon aged thorn."







## AN ADEQUATE RURAL SCHOOL

By REV. CLAIR S. ADAMS.

THE Anglo-Saxon passion for education found its highest expression in the public school, which was organized near the close of the sixteenth century under the masterful influence of religious devotion. It was the outgrowth of great religious awakenings and was the child of the church. The public school system has grown with such rapidity, that it has far exceeded the strength of its mother lamentably, and it has even turned away from her teachings and has actually, in many states, excluded the bible from its course of instruction.

The rural school is not keeping pace with the city school and there is a lack of interest in its status which calls for serious thought. Here is what the Country Life Commission says of the rural school: "The schools are held responsible for ineffective farming, lack of ideals and the drift to town. This is not because the rural schools as a whole are declining, but because they are in a state of arrested development and have not yet put themselves in cognizance with the recently changed conditions of life."

In the rapid stride of our times, the country school has suffered with the rural church. To show the importance, however, of the rural school, let me give you this fact: 67% of the school children in the United States go to the rural schools, and 95% of these never go to any other school in all their lives. Or put it this way: 64% of the generation now in school in the United States will never know any other school than the one-room country school, with its present form of instruction in books and morals. Eighty per cent of the schools in 32 of our states are one-room country schools.

## MINISTER MUST TAKE INTEREST IN SCHOOL.

The minister must be concerned about the rural public school and its success because historically it is closely related to the church. It originated under the reform movement in Geneva and Scotland and in the early days all of the higher education was given over to the religious colleges and academies and ministers were the school teachers. Today on the foreign fields the schools and church are very closely related. Last winter it was my happy privilege to speak in a church in Tennessee that was used each week as a school house, and on the Sabbath as a place of worship.

Second, the minister must be closely identified with the rural school since sane religion depends on knowledge, for knowledge is power. "Know the truth." Knowing God's laws and ways is knowledge, and the more one knows these things, the more he will act in accord with God; the more religious he will be; the more he will be touched by the Spirit; the more he will know the mighty power of God, and the more he will be a mighty power for good. And so you will find the finest expression of a cultured religion where there is the highest knowledge. We might add that protestantism is what it is, because it has always emphasized the school. Where we find a community that is ignorant we will also find the lowest grade of religion. If the church in any community is to be an enlightened church, that community must have a progressive rural school.



Third, the minister must be interested in the rural school because he is expected to lead. It is his rightful place. We must admit that we are ashamed of some of our brother ministers who give as an excuse why they do not live in the open country, that they must live in town where they can educate their children, and so confess that the country school may be good enough for their farmer friends and church members but not good enough for themselves and their own children. We believe that if there is any one in the country who should have a large influence in making the country schools what they ought to be, that man is the preacher.

Fourth, the minister must be concerned in the rural school because of the educational bearing on income and prosperity, for with education these things come. Here are some interesting statistics that were brought out by investigations made by Cornell university, recently. Letters of inquiry were sent out to 573 farmers in central New York with two questions prominent:

1st, what education have you had?

2d, what is your annual income?

Here are the responses to these inquiries: 398 had rural school education only and their income was \$318.00 a year. One hundred sixty-five had the rural education—plus a high school education and their income was \$622.00 a year. Ten of them had a rural school—plus the high school—plus an agricultural college education and their income was \$947.00 a year. You can see at once the bearing that education has on the income and income has a mighty bearing on the permanency of the church of Jesus Christ.

In the fifth place, a minister must be concerned in the rural schools because of their inadequacy. One of the chief reasons why farmers move to town is to educate their children, and it is as purely missionary work to build up our rural schools by aiding our educators as it is to go into foreign fields and to establish schools.

In conclusion, regarding this phase of the subject, the minister is concerned in the rural schools religiously because our protestantism emphasizes free conscience and the free interpretation of God's word. To have this there must be an enlightened church membership. He is also concerned politically, for every man is a voter and the perpetuity of our government depends upon an enlightened citizenship. Republics can never flourish where there is gross ignorance, and so to protect church and state the minister must lead in this rural school problem.

#### THE UNATTRACTIVE RURAL SCHOOL.

The inefficiency of the average school is quite pronounced, and especially in the building itself. Do you remember the first day that your little child went to the rural school? That day stands out in your memory if you are a parent as one of the great days of your life. That morning he went from the home with its carpets, pictures, flowers and home comforts, down the flower-bordered path, through the gate and perhaps up the nearby hill to a dingy, unpainted, low-ceilinged, barely furnished room called a public school house. There your child went to spend years before entering the modern high school or the splendidly equipped college or university. The city and town pride themselves in their splendid buildings but because of the selfishness or indifference of so many of our country people the rural schoolhouse is actually a disgrace to the community. We have in mind a school district we



visited in Vermillion county, Illinois, populated by prosperous farmers, where the school building was the same old log house that had served in that capacity for seventy-five years, with just a few narrow, dingy windows, a low ceiling and most uncomfortable surroundings. Is it any wonder the children do not want to go to school? The wonder to me is that any of them want to go to such buildings.

Another thing that makes the rural school inefficient is its small attendance and inadequate courses. Its average attendance in twenty-one states is thirty-one pupils. In fifteen states 28% of the rural schools have an enrollment of fifteen pupils or less. In Iowa, where we are specially interested, 40% of the schools have sixteen pupils or less. How can there be competition or enthusiasm in the boy when he is the only one in the class? True, he may get that individual oversight that we so much prize, but where is the rubbing up against other lives; learning the lessons of co-operation which are necessary.

#### COURSES OF INSTRUCTION ARE INADEQUATE.

The courses are inadequate because they are largely copied from city schools and have only occasionally included any training for rural life. I remember the first time I became dissatisfied with the rural school. In Ohio I had three or four times finished Ray's Third Part Arithmetic, which was the only arithmetic taught at that time. The class had its choice of going over it again or quitting, for there was no higher training. The teacher that winter had taken a course in business college and said that if the directors and our parents were willing she would give us a business course instead of arithmetic. They finally consented and the teacher ordered the books which included cash book, ledger, journal and then paper money to use in business as it is actually carried on. We had a banker, merchant, stock broker and a manufacturer, and very enthusiastically we entered into the work, but all the business pertained to the great enterprises of the city, and when we had finished that course every mother's son of us had but one desire, and that was to leave the farm as quickly as possible and go into the city where we could work out the problems we had begun in our business course.

I am not finding fault with the course; it was good. But could we not have been taught of the farm, of the cost of its maintenance, of buying and selling cattle and hogs, of shipping produce, of finding the annual yield per acre, and in this way have intensified our desire for farm life and the business side of it as well as preparing us for larger usefulness? So many mathematical problems and examples of literature in rural school work are taken from the city and its environment, and many of the city and town girls go out into the rural schools for their experience in teaching, with no intention of making it other than the stepping-stone to a position in the city.

We found a happy exception recently in Wright county, Iowa, which has thirty-four rural schools and where agricultural courses have been introduced. Before this an investigation was made as to the life occupations of the boys and girls who were about to enter the three years' course. One hundred fifty-seven of the 164 boys, and 163 of the 174 girls said they expected to leave the farm as soon as they were through school. After agriculture and home economics had been taught for a period of three years, the same question was asked these same boys and girls and 162 of the 174



boys and 161 of the 178 girls desired to stay on the farm. We are glad that the especially adapted courses for rural schools are being mapped out, and that our educators are realizing that to train boys for the farm, requires a different kind of teaching than the city curriculum gives.

#### LANDLORDS RETARD SCHOOL PROGRESS.

There is still another reason why our rural schools are inefficient, and that is because of the hostility of landlords. Some of them actually combat any improvements in the schools, though their tenants are there with children to be educated, selfishly considering it a waste of money because it is not going to benefit their own children. Two years ago I knew of a little town south of Danville, Illinois, that had built an excellent school. In its desire to reach a larger number of pupils it suggested to some of the neighboring districts that they become incorporated in the town district. To bring this about required a vote of the citizens and this is what happened: The landlords of many of the farms around this town, realizing that it would mean a little higher tax to maintain this much improved school, with high school and agricultural courses added, threatened their tenants with an immediate raise of rent of from fifty cents to a dollar an acre, if they voted for it.

#### STEPS FOR SCHOOL IMPROVEMENT.

Among the steps that must be taken to help the rural school, the first is to redirect its education along the line of rural life, not city life. Here we must emphasize the glory of God's out of doors, and there must be much teaching of nature and science and such culture as will help the lonely hours to pass more swiftly.

Second, better salaries must be paid to rural teachers. It is not strange that so many only teach a short time and then take up some other line of activity, when they receive such meagre salaries. Seventeen hundred teachers in the state of Iowa received less than \$35.00 per month last year so teaching was with them only a make-shift. The average number of months taught in Iowa is but five months. There cannot be a rural school that is at all adequate to the rural needs with such small salaries and short terms of school. In the state of Illinois so meagre are the salaries paid our teachers that more and more the men are being driven out of the profession, and a larger number of women are taking their place. This should not be, for the farmer's boy has a right, some where along the line of his education, to have a man as his teacher. Only by giving teachers salaries large enough to encourage men and women to enter the profession with the thought of devoting their life to it, will we have rural schools strong enough to develop the more perfect life.

Third, there must be the consolidation of schools, a movement which has made a wonderful recent advance. A bulletin recently published by the national bureau of education says there are now 2,000 consolidated schools in the United States. Indiana leads and has a law whereby a district having thirteen pupils or less must consolidate with another school. In 1912, 16,034 children attended these consolidated schools of Indiana, and were carried by public conveyances. In this rich Mississippi valley, where good roads may easily be made, the time will come when the rural schools will be consolidated and run at much less expense than now.



In Worth township, Indiana, since the consolidation of schools, the tax levy has been actually less than under the old regime. Two months have been added to the school term and a high school course of three years has been provided, so that those wanting a high school education need not go to a neighboring city with all the expense of transportation and board, and with all the city temptations and attractions. They can be educated at home, with its restraining influences and wholesome entertainment.

Finally, we believe special schools, though as yet an experiment, might be helpful in the country. This has been tried in Cherokee county, Iowa, and is intended for the young people of the community who are too old to go to school in the grades. These special schools are usually attended by persons almost young men and women who take up special studies or courses somewhat akin to the folk schools of western Europe. In the experiment already tried, these schools have been such a success in ministering to the boys and girls, who because of neglect on the part of parents, or lack of opportunity have not had school privileges, that they should be encouraged, for the boy and girl without an education today stands little chance of getting very far up the ladder of success, and more often never has the courage to try.

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## THE RURAL CHURCH PROBLEM

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BY REV. CLAIR S. ADAMS.

THE rural church problem is exclusively an American problem. In Europe the rural church is well established and occupies a position equal to the city church. There the young minister looks forward to a rural pastorate with earnest zeal, and there he builds up his life in the midst of the quiet duties of his parish. There we do not find a city minister looking down upon the country minister, or the city church robbing the country church.

Again, the rural church problem is not only peculiar to America, but it is a problem peculiar to the Protestant church in America, for wherever we find the Roman church in the open country we find beside it the manse in which the priest lives and oftentimes the parish house and school, the former being the social center of the entire community. In fact, wherever the Roman church is found in the country it is growing, while our Protestant churches are dying.

In the development of our rural civilization, all the other institutions interested look to the church as the leader. One agricultural editor writes: "To the church we must look for leadership in this matter of higher and better living. Thus it is a church obligation to the rural problem which the church cannot pass by." The rural question should lie very close to our hearts and minds for a number of reasons.

First, the rural population of the United States is still in the majority, though our cities have grown remarkably and some even prophesy that the time will come when all of our population



will be in the city. In spite of city trend and growth, 54% of the population of the United States, lives in the open country or in the country town. The rural population of today equals the entire population of the United States, both city and country, of forty years ago.

Second, the rural church problem is an important one because our leadership comes from the country. "Who's Who in America," a book published every few years containing the names of living Americans who are successful in any line of work, was recently studied by Newell Dwight Hillis to see what proportion of these leaders in America were brought up on the farm, or in the farming villages. He found that 85% of the men and women who are leaders today in both city and country were born and reared in the open country—in God's out of doors.

#### MINISTERIAL SUPPLY COMES FROM THE COUNTRY.

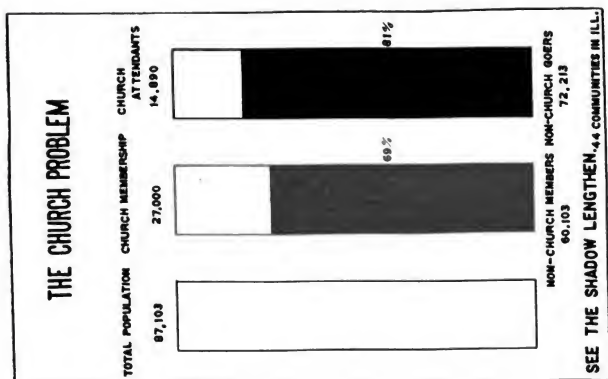
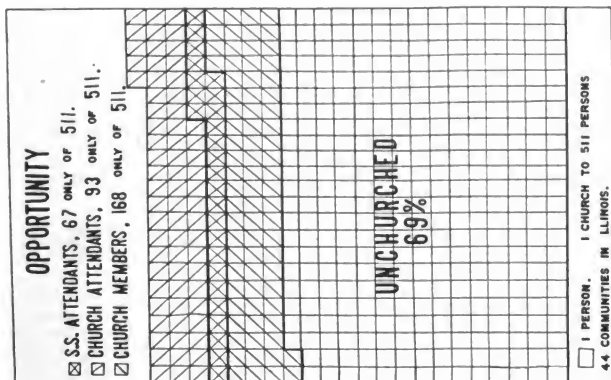
Third, our rural church problem is important because our ministerial supply comes from the country, and that supply is dwindling away. In our own Presbyterian church, until last year, for several years, there has been a constant decline in the number of candidates for the ministry. Today there are a thousand vacant Presbyterian pulpits in America, pulpits that might support a man if one could be found. The church has grown much more rapidly than the ministry, hence a lack to fill the pulpits of the newly organized churches. The scarcity of ministers is due to several causes. First of all, a financial cause. We are not paying our ministers here in America a living salary. Considering what a dollar will buy, we are really paying our ministers less now than we paid them twenty years ago, in spite of the fact that the comforts of today are what we considered luxuries a generation ago. A young man standing at the threshold of college, with seven years more of preparation before he can enter the ministry, is quite sure that he will not receive as large a salary when he is through as he would were he a brick mason with only three months' training.

Many of our young men have had their minds turned from the ministry by going to our great state institutions which lack the religious touch of the old denominational schools. A generation ago we had a dozen christian colleges here in America which quite excelled, in equipment and attendance, our state universities; in fact, twenty-five years ago when I graduated from college there was only one state university that compared with many of our denominational schools. Now the millions of dollars that are put into our state institutions make the drift of your young men and women toward them. Here, young men who have thought of the ministry, placed in an atmosphere of scientific research which is often under the irreligious teaching of those who have no reverence for holy things, lose sight of their holy calling.

In this past generation through the higher criticism of many of our religious leaders, doubts have been placed on some of the great fundamental facts of our faith. The disputes, and sometimes denominational rivalries, have all had their place in turning the minds of young men from the ministry.

But to my mind even these are not the real reasons why so few of our young men are not entering the ministry. Remember that through all the ages since the church was organized our special leaders have come from God's out of doors and our ministers from country churches. During the last twenty years that we have been letting our country churches die, have neglected their spiritual up-







lift, have centralized our religious thinking and planning upon our towns and cities, we have been closing the chief source of our ministry, for nine-tenths of the ministers in our Protestant churches have come from the open country.

I could take you to a church over in Indiana that has never had more than forty members at any one time, and yet that church within the last twenty-five years has sent out twenty-five young men and women into distinctly christian work, as missionaries, ministers and Y. M. C. A. or Y. W. C. A. workers. A Presbyterian church in the western part of Pennsylvania celebrated its one hundredth anniversary some time ago, a church right out in the open country, and in the one hundred years it sent out into the uttermost parts of the earth, one hundred men as ministers and missionaries, a record of which it has just cause to be proud. Where is the city church that can show such a record? It is the greatest joy of my life to remember that from our Bement church, as its crowning work there, seven young people are now preparing themselves for christian service; the outgrowth of just one country church in her consecrated effort to further the kingdom of Christ.

The majority of our teachers also, come from the country. How large a proportion, we know not, but it is not an uncommon thing in reading of some noted person who leads out in educational lines to find that he was born and brought up on a farm, and that the first ideals and visions that came to him were in the green pastures and beside the still waters. There alone with God and his great book of nature, open all about him, he learned the great truths which moulded his life and made him a teacher. With reverence we might say, such were sent from God.

#### REFORM MEASURES MUST COME FROM COUNTRY.

Fourth, the rural church problem is important, because our reform measures have come from the country. The beginning of the old anti-slavery agitation was in the country and in the country churches, where farmers and rural ministers raised the first voices against slavery in America. The farmers were the conductors on the underground railroad, and it was the constant prayers and work of farmers that brought about the agitation, and afterwards its consummation.

The chief strength of the great temperance movement is rural. In the state of Illinois for some years we have been trying to get county option instead of township option and these efforts have been fought thus far successfully by forces that emanate from the great cities of our state. There are two forces in our modern civilization constantly fighting each other; the force that would upbuild, and the force that would destroy. Almost universally the forces that would destroy come from the city, the mobs, the lawless, the grafters, while the forces that would upbuild and sanctify and bless, come from God's open fields and from the quiet, thoughtful life of the country folk.

Fifth, the rural church problem is important because of the rural need of today. We do not like to speak disparagingly of the country church or of morality in the country places; we do not like to think of our country communities becoming less and less moral or less and less religious, but from the investigations made in different parts of the United States, the facts compel us to believe that today there is a decadence of morality and religion in rural life that calls for thoughtful and earnest endeavor on our part.



For example: A three months' canvas made two years ago of 225 churches in 44 communities in the central part of Illinois, which is the very richest agricultural part of the state, brought out the following facts: Of the 225 churches, of all denominations including the Roman Catholic, only 77 had grown in the last ten years; 45 were at a standstill; 56 were dying, and 47 were dead, or abandoned, country churches dead only where the buildings still stood but where the organization had been disbanded. These 47 buildings were once the pride of the countryside and the gathering place on Sabbath morning of parents and children for the study of God's word, for worship and for meditation of his truth, but now they are deserted spots. The outbuildings have rotted away, the weeds and briars are growing across the path, the blinds have fallen off their hinges, the houses are closed, and the spires, lifting themselves up through little groves of trees, like fingers pointed toward God, are mere silent reminders of a religious faith of a generation that is past. Summing it up then, 34% of these churches in the country and in the country villages have grown, and 66% or two-thirds of them are either standing still, dying, or dead.

In these same communities only 31% of the population are church members; 19% of the population are church attendants, and but 13% Sunday School attendants, while 48%, or almost one half of the population, are unchurched.

#### THE CITY TREND MAKES THIS PROBLEM.

Why do we have this problem in America? First of all because of the city trend of our times. Sir Horace Plunkett says, "Our civilization in America is lopsided." During this past generation, we have been thinking of our cities; our country boys and girls have early developed the tendency to move to the city and to think that only in the city can they win success. With this city trend has come the introduction of a foreign population, bringing problems to which our thought has been turned; with it has come also the improvement of agricultural implements, which has made it possible for more land to be farmed with less work and fewer men.

In the second place, there has been a change in country population. One hundred years ago very few people lived in cities; as a nation we were farmers. But with our great city growth, all this has changed. Rural communities were originally settled by pioneers who came from the same locality in the east, with the same ideals, thoughts, purposes, to provide homes for themselves and for their children. My own family, the Adamses, came to America at an early date, and settled in Massachusetts very close to the sea, where they lived for a number of generations until the high price of land and the gradual loss of fertility drove my great grandfather with a large family of boys out from eastern Massachusetts to Vermont, then the West. There he cleared a large tract of land, and gave a farm to each one of the boys. Exactly one hundred years ago my grandfather left the Green Mountains one morning on horseback to go still further West where land was cheaper, and after many weary weeks of travel, he came to Northern Ohio. With his money and the horse he was riding he bought quite a section of land, not only for himself, but for his brothers and sisters and their families. Then he walked to Cleveland, took a boat to Buffalo, came by stage to Albany and went afoot back to Vermont. The next year he came



west again with his bride, bringing the old copper kettle and spinning wheel, and with his relatives settled in a new community. What more natural than that the church that grew up in that community should be a Presbyterian Church, for they were all Presbyterians, coming from the same church in the Green Mountains. Just a few miles beyond was another settlement established in the same way by some Pennsylvania Quakers, and so a Quaker Church was built. To the south of them came some colonists who were closely related, and they were Methodists, and so the Methodist Church sprang up in that community.

So on all sides of my people were these little colonies, closely related, and in fact, this same way our country was settled.

As a result we find the serious country problem today of having so many denominational churches in the country. Now these communities are broken up, many of the old pioneers have passed away, tenants and foreigners have taken many of their places, and we have as thoroughly a cosmopolitan country as we have city. Yet the relic of this old time pioneer period still remains in the country church.

Sectarianism has also had its place in creating the rural church problem, whereas in cities, churches of various denominations long ago learned to work together. In the country, however, this is not true, for the rural churches have not had occasion to work together, and we still find the old time ideals prevailing in the pulpits, where the minister's chief thought seems to be to indocctrinate his people in why our church is "it" and every other church is "nit."

#### MINISTERS ARE EDUCATED AWAY FROM THE COUNTRY.

The disparagement of the country ministers has been another cause for the problem; that is, the city minister in America looks down upon the country minister. I would not say that our seminaries are to blame for this, but there is an atmosphere about them which would seem to lead the young minister to think that he can win his greatest success in the city, and that there alone is his greatest field of service. He may take a country church for a little while, as a stepping stone or experiment station, but how very few of our young ministers have ever had put before them the ideal of spending their lives with the country people. Most of them look forward to the time when they can occupy a city pulpit in a church with stained windows and a pipe organ and learn to say "eyther" and "nyther." Did you ever hear of a city preacher suggesting an exchange of pulpits with a country minister? As we attend our various church gatherings we see the great prominence given to city ministers on the program and on committees, and the utter oversight and passing by of some faithful, competent country pastor who has remained on his job for years, and whose judgment and consecration are unequalled, and we are forced to believe that there is a tendency on the part of city ministers to disregard the rural minister and his people.

Another serious problem is the lack of leadership in the country. We do not mean by this that there is not an inherent leadership; we would rather say that the rural leadership is static and not dynamic as in the city, for we have already stated that the great majority of our American leaders have come from the open country. But the later rural leadership needs awakening. It needs the larger ideals and visions beyond that of the little community; it needs the world view, instead of the ideals of a cen-



tury ago. We need some of the old time leaders for our new century service, and know not where we shall find them if not from the country.

The old methods in church work are making our rural problems serious. The country church still worships as it did a generation ago; there are no new ways of doing things. Oftimes the church is just as it was in its furnishings when built by the old pioneers, with plain board seats, coal oil lamps, narrow pulpit and platform, and narrow, small paned windows. The very atmosphere is unpleasant and uninviting, and from the pulpit is heard the same old kind of sermons, as narrow and gloomy as the surroundings. That farm adjoining the church has the most modern farm machinery. The telephone and rural delivery are at its service with blooded stock in the barn, and an automobile in the garage, the educated owner is running his farm on scientific methods, very different from the way his father used to run it, but the church is just as it was, when he went there as a boy with his parents and sat in the family pew and listened to the parson preach his sectarian, and almost tragic, gospel.

#### WAYS TO SOLVE THE PROBLEM.

In conclusion, let us think of some ways by which we can help solve this problem.

First, this problem needs the attention of the whole church, and it deserves it, for we are told that three-fourths of all our Protestant churches are country churches. In the Presbyterian denomination but 29% of our churches are city churches while 44% of them are in towns of 2,500 and under, and the remaining 27% are out in the open country. So, when we are calling attention to the rural church problem, we are calling attention to the problem of 71% of all the churches of our denomination. Moreover, if there is anyone who ought to be interested, it should be the city church, for it is from the country churches that the city church membership comes. In our General Assembly report of members received into the churches by letter and on confession, we find it the general rule that the larger proportion of the members that come into our city churches come by letter, while the larger proportion of those who come into our country churches come on confession of faith, which means that our city churches are built up by the removals from the country towns and rural districts to the city.

It was my privilege to attend a service in the Second Presbyterian Church in Decatur, Illinois, a few months ago, when seventeen new members were received, and all but three of these came by letter. That means that fourteen members came into that church from other churches in small towns and the open country, mostly about Decatur. Less than a year ago I was asked to address a meeting in Hutchinson, Kansas, and the pastor informed me that within the preceding four months, 98 families had become identified with his church, 60 by letter from neighboring towns and the other 38 families whose inclinations were toward the Presbyterian church or whose relationships were identified with it. Now 98 families coming into a church within four months is a very good growth, and would make a respectable sized church in itself, and it is because city churches are being so largely reinforced from the country, that they should give attention to the building up and fortifying of the rural church.



Second, this problem can be solved by the country churches using new methods of church work. The word religion is a broader word than we thought it to be, especially in the country churches, for it touches the whole life of man, his social wellbeing, his work, and every other part of his life, and we believe it touches even the soil on which he lives, for the "earth is the Lord's, and the fullness thereof." So if we would make the country church what it ought to be, we must enlarge its service and instead of being a pulpit with a roof over it, it must be restored to its old time place, as the meeting house, the gathering place for the whole community.

#### CHURCHES MUST FORGET MERE SECTARIANISM.

Third, we believe the problem can be solved by the churches uniting and forgetting the old sectarianism. The time may not be ripe for the uniting of all our churches into one great Protestant church, but we certainly can work more harmoniously in the country places; we can forget the differences and jealousies of the past, and together get a larger conception of true christianity. We hail the time when country ministers come together as the city ministers do in their Ministerial Associations, and talk and plan their work for the advancement of Christ's Kingdom.

Fourth, it will help solve the problem when the country church gets out of the narrow confines of self, and realizes it is here to minister and not to be ministered unto. In fact the whole spirit of christianity is doing for others. We might confine the whole Bible to two short monosyllables, "Come" and "Go." As long as a man or a community is away from God, no matter where that man or community may be, God has for them just one word, and that is "Come." He speaks it in a thousand different ways, so lovingly; so sympathetically. He plays upon the heart-strings his loving word, "Come," but the moment we have accepted his great gift; when we obey that word "Come," then he has one other word for us, and that is "GO," and the country churches have not been going, and the greatest opposition to missionary effort is found in the country churches. Those least interested in the world's great religious movements of today are found where men live out in the open country, and where they ought to have the world visions, for they have the broad horizons that the city man does not have. We have not been going; we have been wrapping ourselves up in our own denominational pride, and the community about us is drifting away from God, and out into darkness.

Fifth, to solve the problem, we must have young men who will dedicate their lives as faithfully to the building up of our rural churches, as the young men in our colleges today are consecrating themselves for the foreign field. We need young men with a vision, and who, like John Oberlin, are willing to lose themselves that they may in Christ's name help the rural people to see God through agriculture, schools, and everything that goes to make up life in the open country. Such lives will leave their impress on future generations, as they are lived out again in renewed life, and consecrated service.



## THE BUILDING AND EQUIPMENT FOR RELIGIOUS INSTRUCTION

By REV. CLAIR S. ADAMS.

**H**ISTORICALLY there have been three stages of church development: First, The witness to the truth, the age of the martyrs, and of the establishment of creeds and formation of different denominations; in this period the great thought of the church was to bear witness to the life and death of Jesus Christ and to inculcate his principles in the civilization of the world. Second, The propagation of the truth, when christianity was sent into the world through missions, the establishment of schools and the creation of a christian literature. Third, the period into which we are entering, The application of the truth, when society is to be permeated with Christianity and when the whole world is to be brought to a knowledge of Jesus Christ.

The building and equipment of the church materially varies with these different periods. For example, when the church was to be merely a witness to the truth there were no church buildings of importance. The disciples and missionaries travelled from house to house and from place to place, often a price set upon their heads and always subject to persecution. Oftimes the churches they organized had to be kept secret and even the sacraments of the church were observed in seclusion. In the second period under the propagation of the truth the great cathedrals arose. Then the pulpit was the great thing in the church and the declaration of the principles of christianity was the great thought; then the world, through schools and literature and sermons, had to be educated in christian living. This too was the period of the rise of the denominations, each of which emphasized some great truth of our christian faith. Without these denominations probably there would not be the knowledge of these great principles that we find today. The period into which we are now entering, the application of the truth, it seems reasonable to believe, requires a different building and equipment. The church of Jesus Christ is a herald of the truth and the message that it gives is that of salvation. As in the church's relation to Christ it is his body, so in the application of its truth it must be the incarnation of his spirit and must carry out the great embodiment of his principles. Hence there must be a greater variety of religious activities than in the time when the truth was merely to be propagated or witnessed to.

There is a close relationship between architecture and religion. In ancient Greece, Rome and Egypt the finest buildings were those erected for the worship of the gods. Not business houses. The great cathedrals of the middle ages, still standing eloquently as witnesses to the sacrifices of devotion of men for religion even in the past ages, the magnificent temples of India and the great pagodas of China and Japan all express the inherent reverence and respect of man toward the higher power, whether he be called God or Buddha. In Israel there was also this devotion to God's service, and no sooner had David thoroughly established his kingdom than he realized the need of a temple for God's worship, and out of his loyalty and reverence to God he said, "I dwell in a house of cedar but the Ark of the Lord dwelleth within curtains," and so he began what Solomon, his son, consummated in the erection of the most beautiful temple ever built on earth for worship.



The old dispensation emphasized religious instruction and provided for it. In the courts of the temple Christ taught his disciples, and that was one of the regular places of religious instruction. Paul, speaking of the law, likens it to the schoolmaster that leads us to Christ. More and more we are coming to realize that the church is the embodiment of the Spirit of Christ. The new dispensation emphasizes Christ-like ministry,—that we are in the world not to be ministered unto but to minister and to give our life, if need be, a ransom for many.

Right here let us face a criticism that is sometimes made against the church because of its planning and arranging for other services and ministry than the pure church worship of the Sabbath Day. The criticism has some ground, and if we think of social service as the end, then rightly should it be deplored by those who love Christ, but if we consider social service as ministering to the world's need and as merely the means of touching the heart and changing the life, then we believe that all such ministry is religious and Christ-like. Reverend Hugh Price Hughes of London, when severely criticised for the institutional churches that he was establishing, and for his emphasis on the material and social instead of the spiritual, fittingly made this response: "All the souls I know anything about possess physical bodies and live on earth among men." In other words, many times the only way we can reach the soul is through the body. Some day we may get to the place where we can see the soul separate from body, but until that time comes, the souls of men will be closely connected to a body, subject to aches and pains and needs, and will long for sympathy and help.

#### A NEW TYPE OF CHURCH STRUCTURE IS NEEDED.

In the age of the propagation of the truth, the one-room meeting house was sufficient. Because of the revulsion of our protestant fathers from the Roman church, these meeting houses were severely plain because the religion was very plain, straight and severe. It was like Mount Sinai, rock-ribbed, with some thunder and lightning, but today we must have different equipment for our churches. I have in mind a church in Missouri, old Smyrna church, that I visited last year. It has the same interior furniture, pulpit, stove and all that it had when the church was built fifty years ago. Outside everything has changed; farm implements, homes, live stock, vehicles, and the conveniences in the home, but the old church stands the same, an ancient monument in the midst of twentieth century progress.

Another church visited in Tennessee last winter, I think I will never forget. In the center of the room stood a stove which came from across the mountains seventy-five years ago; brick-bats took the place of the legs which long ago had been broken off; the stove pipe, being out of commission, the smoke passed out through the broken window panes. There was no paint or paper on the walls. The building was supported by half-rotten posts and while our service was going on we were frequently interrupted by the hogs that grunted in their sleep underneath the floor. What idea would a stranger have should he enter such a building and learn that this was the expression of our gratitude to God and reverence for his place of worship?

Marion Lawrence says, "The country church is often the most unsightly building in town." In the Country Life Commission we



read this of the church and the contribution that it can make toward the upbuilding of rural life. "The time has arrived when the church must take a larger leadership, both as an institution and through its pastors, in the social reorganization of rural life, and the rural church must be more completely than now a christian social center. To do this larger work then, there must be a larger equipment and a better building. A large proportion of country churches are simply one-roomed buildings."

There should be in the country a modernizing of church architecture such as we find in the city, where there is a suitable church building with many rooms for the numerous needs of the community. The church is at once a place of worship and a place of largest ministry to the entire community in which it is placed, a ministry that confines itself not to the spiritual only, unless we realize that the spiritual overshadows the material, but to the material as well through clinics and gymnasiums, study classes, boy's and girl's clubs and various other outlets for activity, attracting the attention and arousing the interest and at last effecting the conversion of those whom it longs to reach for Christ.

We need churches today which will minister as well to the rural community as the model city church ministers to the city. Most of our machinery, books and methods by which we do things are new so why not have modern buildings in which the new agent in a new way brings the ever old new Gospel to the hearts of men? Utility is written large in the church activity of today, and so the rural church must plan for the future. The lack of planning has been one of the weaknesses of the protestant church, while the Roman church plans and thinks constantly of the future.

Practically, let us consider the church building and equipment as a place of religious instruction. A wise saying quoted from Squire Bill Widener by Ex-President Roosevelt puts in a nutshell what we want to say right here: "Do what you can with what you've got, where you are." We want to apply this to our rural church problem. What can we do where we are with what we have?

#### MAKING THE BEST OF WHAT WE HAVE.

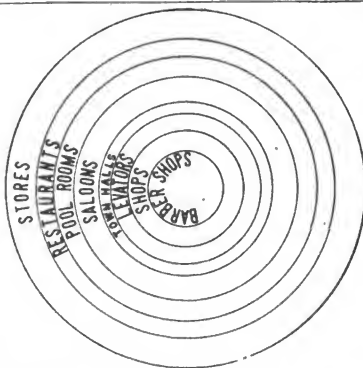
We may, without much expense, add largely to the influence of the church by increasing its attractiveness and thus bring new hope into the hearts of those who worship there. Often the country church is the most unsatisfactory building in the community; the dirtiest, most dingy, and most uncared for, going for years without needed repairs and still standing as the house of God. If cleanliness is next to Godliness, then the church ought to be the cleanest, neatest and most attractive building. It may be made so without expense by merely taking the old one-room building, cleaning it up, fixing the yard, cutting the weeds, repairing fences, and intrusting it to some one who will keep it so.

We shall never forget a little church in the Salt River presbytery in Missouri, known as the Providence church, that I visited last winter. It was a cold, cloudy, disagreeable day that the pastor took me to this church one Sabbath morning to preach. As we drew near, we noticed the neatness of the yard, although there was snow on the ground, but as I stepped inside surprise faced me. The church was beautifully kept. I think one might have eaten off the floor, it was so clean; no dust in sight anywhere. No great expense had been put into the interior. There was just a neat wall paper; the window and door casing were scrupulously clean and the windows



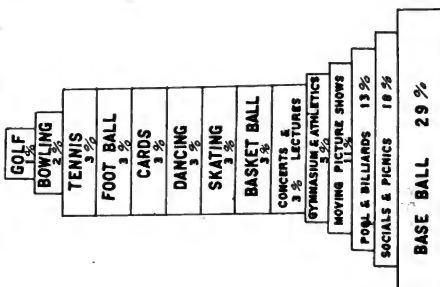
# WHERE MEN MEET

WILL THE CHURCH OPEN DOORS ?



44 COMMUNITIES IN ILLINOIS

# WHAT PEOPLE LIKE



SHOULD NOT THE CHURCH TRAIN IN SOCIAL AND RECREATIONAL AS WELL AS RELIGIOUS HABITS ?

53 COMMUNITIES IN PENN.



were shining. I said to the pastor, "I want to meet the janitor of this church, for I have been longing to meet just such a man." When the old janitor came in, a man sixty years of age who had served in that capacity for thirty years, I complimented him upon the beautiful way in which he kept the house of God, and this was his reply: "I would rather be a doorkeeper in the house of my God, than to dwell in the tents of wickedness." That janitor looked upon caring for the church as an act of worship, and rendered this service heartily as unto the Lord.

Oh, friends, does your church stand as the expression of the gospel of cleanliness? This fixing and cleaning does not cost much. Are we going to take what we have, where we are, and do what we can with it?

The old one-room church can be improved in the way of convenience by the use of curtains to divide it into class rooms for Sabbath school. In our Bement church curtains were placed along one side of the room to make four small rooms for class use and it was one of the best things we ever did in the way of making our Sabbath School more effective, yet the total expenditure did not exceed \$5.00. The curtains were pushed back to the wall when not in use and did not interfere in any way with the large room when needed for other services. Often permanent partitions can be placed through a one-roomed church, especially if the population has decreased and the large auditorium is much too large now. A partition put through such a room would give several smaller rooms and still leave the audience portion large enough to accommodate the Sabbath congregations and encourage the pastor, who always finds it hard to speak to empty seats.

Again, without much expense, an addition might be put on a one-roomed building, especially for the primary and beginning departments, and for social services. A basement might be placed under such a building with kitchen, dining room, social rooms, which might also be used for Sabbath School classes.

#### THE PARISH HOUSE FOR THE OPEN COUNTRY.

I firmly believe in a parish house for the open country, as well as for the city church. I realize there is a sentiment in many communities against the use of the church for other things than the preaching of God's word. I have no argument against this thought of the church; in fact, I would prefer that people have this thought than ideas that are too loose. Wherever this sentiment prevails and it is possible, there should be a parish house for a center of all the social activity in the community. We would have class rooms, play rooms, social rooms, kitchen, dining room, club rooms, and perhaps some facilities for bathing. Often an abandoned church might be profitably purchased and removed to a suitable place near the church, and remodeled. We have in mind several instances where this has been done. We believe it to be almost a necessity since we find so many homes in the country that are closed to the social side of life and young people are either forced to go without satisfying the social and recreational side of their nature, or do find it in the nearby towns and cities, which are often more harmful than helpful. Speaking of the parish house and church, let us suggest the beautifying of the grounds by planting flowers, trees and shrubs, and getting the Sabbath School interested in this kind of church work, which would increase their loyalty to the house of God.



Let us next consider the manse and glebe, for the time will come when the rural church will be ministered to, not by the absentee preacher living in the town and city, but by one living with his family in the community. And this will call for a manse and glebe. The manse will be a modern up-to-date home, and the glebe will be a few acres of ground so that the minister can have a cow and horse, a garden and fruit orchard, and perhaps a little land that he can cultivate, thus associating himself with the farmer folk to whom he preaches. If our country communities would only realize it, the majority of the difficulties that are in the way of securing a pastor for their church would be forever settled if they had a comfortable manse and glebe for the minister.

If Christianity manifests itself in kindness to animals then as we pass through the country and see the utter lack of protection for the horses around the churches, we would be forced to believe that the farmers are not christians. How few sheds we find where the horses can be protected from the severe winter weather, or even the storms of summer, and yet the building of such sheds would be a very small item, compared with the comfort derived from them. Many more people would come to church in stormy weather if they knew there was a warm shed there for their vehicles and horses. Thirteen country communities that we canvassed recently, in one of the most rigorous climate of the most northern part of the United States, revealed the fact that only five churches made any provision whatever for the horses.

#### LECTURE COURSES IN THE COUNTRY CHURCH.

In connection with the new church building for the rural community, we should emphasize some things not necessary to be emphasized in a city church. The trouble has been that too many of our rural churches have been planned by city architects and are therefore copies of city buildings. We believe that in the country a larger place should be given than in the city church for instructive lectures and social enterprises. The building should have a good lighting system, and be well heated. Ventilation is a matter of vital importance, for the most eloquent speaker cannot do his best when the air is impure. In this rural church there should be large cloak rooms, where people can leave their wraps and blankets in bad weather. There should also be a library and reading room. The agricultural departments of the nation and states publish an immense amount of splendid information which is free to all the farmers. Why not put in the rural church a good agricultural library, and have a room that is open all the time, where farmers can go and consult the best authorities on their particular problems? There should be a mother's room, large and cheery, if possible, with folding doors opening into the auditorium provided with lounges and easy chairs, tables and play-things for the children. A stereopticon is especially helpful as a part of the country church equipment. We know several churches that have moving picture machines. In fact, in one country town the moving picture show is conducted by the church and is naturally giving only the best pictures and films. This class of entertainment, provided each week by the church, has driven out the cheap, harmful, objectionable shows.

We have also found an inexpensive printing press a great help in church work, and this can usually be managed by some of the boys of the community who would find delight in printing cards, tracts, notices and matters of publicity for the church and community.



## THE MINISTER AS A TEACHER

By REV. CLAIR S. ADAMS.

**R**URAL life today is the envy of city cliff-dwellers. We find the "back to the farm" sentiment expressed on every hand and in every way. If the country minister would only realize it, in this fact is his supreme opportunity to teach great lessons to the community and to the world.

Let us, however, define a country minister, and we take this definition from the report of the Men and Religion Forward Movement: "Many names have been given to the holy office of the ministry. First of all he is called the pastor, which means the shepherd. The shepherd is one who intimately cares for his sheep. Sheep cannot be cared for at a long distance, but above all other animals require the constant companionship of the shepherd, or pastor. The second name for this office is the preacher, a name emphasized especially in our protestant churches. The protestant church has always magnified the power of the pulpit as in contrast to the power of the ritual or of the mass, and has given a large place to teaching. The pulpit has been the place of influence, where men of marvelous eloquence have made deep impressions on the world. The third word for the minister is parson, the old New England word. Some say "parson" is another form of the word "person," the "e" being changed to "a," meaning that the parson in a community was the person, the leader, the one looked up to in the leading of all activities. The other derivation of the term parson is the one who parses, or spells out or defines or interprets to the community the ideals and thoughts and the inspiration of God's truth. Another name is that of teacher," and it is of this last that we wish to speak.

Christianity is, above every other religion, the great teaching religion. The Anglo-Saxon race, in which protestantism has found its greatest field, has two characteristics which stand out like those of Israel. The first is the love of the land, and the second is the love of knowledge. Historically, christianity is the great teaching religion, for the last command of the master to his disciples was to "Teach all nations, teaching them to observe all things whatsoever I have commanded you, and lo, I am with you alway, even unto the end of the world." The church and the school have been very intimately related through all the centuries; in fact the school is the child of the church, and in the early day the minister was the teacher and preacher; teaching the children on week days, and preaching in the pulpit on the Sabbath day. Today the missionaries in the foreign field are mostly teachers, teaching and preaching going hand in hand. What we need today is home missionary volunteers who will go into the pulpits of our country churches and magnify the teaching office. As Bemis says in the Y. M. C. A. conference report, "The greatest home mission field in the United States today is the average country community."

We want to speak first of the preparation of the minister for his teaching. To begin with, he must be a *man*, and we wish to emphasize that word. Too many of our country churches are served either by a boy preacher, who wants to get a little experience, or by some worn-out preacher who has already passed his day of greatest usefulness. He must be in the prime of life. He must be a man, physically strong; he must be broad-minded and



trained intellectually. In fact he must be a man as well equipped intellectually and spiritually as his brother is for the city ministry, for there is need of broader fields of knowledge, and deeper christian experience in a country minister than in a city pastor, and this is especially true regarding his spiritual life, because of his isolation. The city pastor has the opportunity of mingling with other ministers in associations of various kinds, thus giving and receiving spiritual power, while the minister in the country stands practically alone. Perhaps he never sees another minister until the meeting of his church body, and yet through the days and weeks and months he must be drawn upon constantly, like a great dynamo, for all the spiritual power of the community. The old idea of a minister was that of a recluse, devoting much of his time to study and meditation, but the new idea is that he be this plus leader, financier and organizer.

In the second place, the rural pastor must be broad-minded. The country church pastor ministers to all sorts and conditions of people while in the larger cities the pastor ministers to a class. For example: in a rich section of the city, the church will be attended by rich people, exclusively; in the factory part, the attendance will be shop people, while down in the mission part, it will minister to the poor. Hence most of our city churches are class churches. In the country it is different: the church has its rich as well as poor, educated and uneducated, and to minister to them the pastor must be broad-minded. There are some things that keep broad-minded men out of country pulpits, and it might be well to speak of them now.

#### WHY BROAD-MINDED MEN AVOID COUNTRY PULPITS.

First is the narrow religion. There is the danger of a minister in the rural church becoming pessimistic, especially as he sees the population changing, and the young men and women, as soon as prepared by the church to be of real service to him and the community, leaving for other fields of labor and life.

A second thing that keeps men out is the narrow conception of religion among the country people, who allow petty jealousies and narrow religious views to divide the community. In the face of these conditions, the rural pastor must be a man of unusual ability along ordinary lines, and added to this he must have consecrated tact and a God-given vision of the rural need.

The third requisite of a country minister is that he have special training. We do not mean by this that he must be a specialist along the line of agriculture, but he should be intelligent regarding the activities of the farming people. We believe it would be an advantage to the rural pastor to attend short courses in an agricultural college and the institutes that are held nearer home. We believe this was the method of the master, who identified himself with the men to whom he wished to speak, by having some common ground from which he lifted them in thought to divine things. So we believe the country minister needs to know God's great out-of-doors and to be conversant with his two books, the book of religion and the book of nature, thus fitting himself for larger activity and influence among the rural people.

Fourth, the minister must be willing to stay on the job. There is too much restlessness among our ministers today. The minister who goes into the country today to make it win, must be willing to bury himself that he may find himself in the lives of those to whom he brings the life abundant. No matter how small the church may be, any consecrated minister will find the field too



large for him instead of too small, and the man who considers such a field too small is confessing that he is too small for any church. He must look upon the rural church, not as a stepping stone to a higher place, but a stopping place where he can make his life count for God, though results are not always evident, and the people are often indifferent.

Fifth, the minister as a teacher must understand the mysteries of God. He must have a mighty vision of Almighty God. He must realize that he is an ambassador of the king to men, pleading with them that they be reconciled to our loving, patient, merciful father. He must be a man of great faith and heart.

#### DANGERS THAT FACE COUNTRY MINISTERS.

It might be well here to speak of three dangers that are facing country ministers, of which city pastors know little.

First, there is the danger of depending too much upon what we call evangelism to keep up the work of the church. We find so many of the country churches we visit thinking that the only time when their church can be increased in membership is during the "big meetings" sometime in the fall or winter, a time when the minister will have some brother pastor or evangelist help him in a protracted effort of sometimes several weeks. While we would suggest that each year some special meetings be held, we believe it wrong to depend upon that evangelistic effort as the only means of enlarging the influence of the church and bringing membership into it.

The second danger our country minister faces is that of sectarian preaching. The city churches long ago passed the age of sectarian rivalry, and now the pastor emphasizes the great things for which his church stands, instead of speaking deprecatingly of other denominations. But out in the open country we will still find the old sectarian preaching and many communities are hopelessly divided because of it, so hopelessly that a generation may pass, perhaps, before the wounds will be healed.

The third danger facing the rural pastor is in his practical home mission field to forget the need of the gospel in the dark places of the world. Missions should be emphasized here, especially, for the country people live narrow lives and their thought and action are confined to the community in which they live. Here the pastor can teach them to have the world-wide vision and give them an interest in the greatest christian enterprise in the world.

A story that I read not long ago illustrates the condition and need of these people. A certain man lived in a city whose life had been confined to home and office duties. His path was hemmed in by stone walls. His office was dark and dingy, and day by day he pored over his books until his eyes failed, and he went to consult a famous oculist. After examining the man's eyes the oculist said to him, "I have no medicine that will help your eyes." In bewilderment the man turned and asked what he could do, and the doctor said, "I know of no operation that will help your eyes," and the man was frantic at the thought. The doctor then said, "There is only one cure, and that is to close your desk and your office and go to the mountains; climb the highest ones, and look out over the miles of expanse." He then told him that such continual confinement in office and crowded city had affected his vision, until it had become contracted, and the only thing that would help that condition was to get out beyond the walls, where the vision is large. So it is with our country people who are bound by the narrow duties and every day tasks, and often kept



within the limits of their farms so long that their vision is contracted, and they need to get where they can see how God is marshalling his host for the conquest of a kingdom upon earth. This new vision should be given them to encourage them, for nothing makes one so optimistic as to learn of the wonderful triumphs of the gospel, through the missionaries in foreign fields.

We will now turn to the minister as teacher.

First, he must live with his people. We realize that the majority of our country churches have been ministered to by city ministers, or ministers living in town. In Bowling Green, Missouri, at one time there lived thirty-three ministers, not one of whom preached there, but in country churches. If the minister is to be a teacher in the largest and best sense of the term, his teaching will not be by his preaching so much as by the everyday life he lives among the people. An absentee, ministering to the souls of men is as detrimental to the church life, as absentee ownership is to the soil.

#### MINISTER MUST KNOW HIS FIELD.

Second, the teacher must know his field. We find a great many ministers who do not know the members of his church. We believe he should thoroughly survey his field, and should know the name of every man, woman and child living within the range of his church, whether they be connected with his church or not. His work should be thoroughly systematized and his church well organized. We think he ought to know of the needs of the community to which his church ministers, and this is no more than carrying out the modern business methods. It is this acquaintance with the facts concerning those with whom he has to deal, that is going to make him intelligent in helping to solve the community's problems and thus be a teacher. We would think little of a man who pretended to be a teacher, but who lacked knowledge himself, and was ignorant of the capacity of the people whom he was to teach. So it is with the minister; he must know his field, and by his pastoral work which is needed in the country even more than in the city, acquaint himself with every home and heart. It is said of some of the splendid old pastors of years ago, that they knew the names and spiritual condition of every man, woman and child in their parish.

Third, the teacher must recognize parish responsibility. We have lost the parish idea here in America, which is a weak point in protestantism. Every square foot of ground in the world today is recognized by the Roman church as being in some parish. The church to which that parish belongs may be hundreds of miles away, but every man, woman and child in the world has a parish home, and the priest recognizes his position, even though you and I as protestants do not recognize it. We protestants make our parish synonymous with our church membership. For instance: here is a member of my church who lives four miles in the country, and I go to his home to visit. The moment I come into his yard I feel that he is in my parish, but the homes between the town where I live and his house, I do not feel any responsibility for, because they are not members of my church. We believe what we need in America today is the recognition of parish responsibility, for out in the open country are people who do not go to any church, and yet none feels responsible for them.



Fourth, the minister as a teacher should promote the interest of the Sabbath school by conducting bible and mission study classes; arranging for lecture courses, and especially co-operating with all the officers in the various educational departments of church work.

Fifth, and last, the minister as teacher should unite in building up the rural community in all legitimate lines of christian endeavor. We were delighted to read some time ago of a plan that was carried out in Indiana by country ministers who planned for a simultaneous evangelical campaign in every school house and church in the community. This united effort resulted in a great revival that swept over the whole county; bringing salvation to many and lifting the churches out of discouragement, and united the whole community. May that be the rural condition everywhere.

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## THE TEACHING MINISTRY OF THE CHURCH

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By REV. CLAIR S. ADAMS.

**I**N ITS teaching ministry the rural church has its great opportunity, for it alone stands without any competition as leader in the rural community. Naturally the church is expected to lead there, as it is not in the city, for leadership and ministry are its history in the country. In these days we have broader ideas of teaching and of church ministry than ever before. Perhaps there is a danger here and some years from now a reformation may swing us back within the narrow lines of old Puritanism. But we believe there is a field for larger activity and preaching in the teaching ministry of the country church. Ministry is being thought of not so much as worship, but as service.

We believe that institutional methods are as important in country work as in city work, but for a different end. The problem of the city minister is to get a man separated long enough from the crowd, turmoil and confusion of city life to get his interest and give him a vision for a little while of Christ and higher things. The problem of the country minister is to get a man who is already separated from the crowd, who leads a lonely life between the plow-handles, perhaps half a mile from another soul, to mingle with other men and make him realize his social, moral and spiritual obligations to them. The rural church should emphasize in a large degree the social side of christianity.

Institutional churches in the city in a considerable measure take the place of homes, which, city writers tell us, are getting to be fewer. More and more city homes are passing out of the hands of those who live in them and houses are becoming only a stopping place, a boarding house, a flat, an apartment house, where men and women sleep and get an occasional meal. In the open country the American home still stands, thank God, and many of them have ideals and beauty of character as in the olden days, and are the centers of love and hope and joy and companionship. The institutional church in the city takes the place of the home by providing many things that take the place of the old home-gatherings, but the rural church does not need this particular line of service so much as a fuller social life. In its teaching ministry the church must ever keep in mind the principle that its problem is to get



the lonely man to mingle with other lonely men, so that they may satisfy their social needs.

Institutional methods, we believe, are safer in the rural church than in the city church, because religion in the country is still a strong factor and lives are more thoroughly established there than in the city. We admit that there is a danger here lest we think the social institution of the church the end and not merely a means of bringing salvation to the souls of men. Rural communities, however, are naturally conservative about the social movement as other movements, and well that it is so, for were it not for this pulling back on the part of the country people we know not to what excess the thoughtless, wavering, impulsive, changing multitudes of men might bring the world. We believe, too, that the country folk are thoughtful and introspective and will meditate and carefully balance new movements. They are also religious, fundamental truths having taken deep hold upon their lives, and they are rock-anchored to God.

Today we are facing the question, how much should the church teach farming? Our department of church and country life has been criticised unjustly because it seems to emphasize the practical agricultural side of church work. We do not believe the minister should be an expert agriculturist, or close his Bible and his study to go out in the fields and lay hold of the plow, but we do believe he should idealize farming. The country minister and the country church should hold before the agriculturist the thought that of all the vocations of life, farming is the most religious, because it is nearest to God; that the farmer is God's hired man; that he is God's co-worker from the time of seed-sowing until the harvest. We believe he can thus inspire the farmer with the thought of the the importance and necessity of helping God solve the great problem of feeding the world.

#### STANDARDS FOR THE RURAL CHURCH.

Right here we wish to place a standard toward which the rural church may work. You will notice there are ten points in this standard, and it might be profitable for a pastor and his church, with some such standard before them, to figure out just what per cent of efficiency they are showing, in ministering to their community:

First, there should be a satisfactory equipment as to building and furnishings.

Second, the pastor should live in the parish group with his people.

Third, regular worship, as the preaching service, prayer meetings, missionary meetings, is necessary.

Fourth, an efficient Sabbath school is needed. The school of each denomination has its own standards and here each church might measure up to those standards and see how efficient its Sabbath school may be.

Fifth, there should be a children's society and a boys' or girls' club of some kind. We are glad that today we have a boy problem. There was no boy problem years ago; if there had been, there might not be a man problem now.

Sixth, a young people's society is desirable; it may be Christian Endeavor or Epworth League, Baptist Young People's Union or any other of the numerous societies for young people, either for distinctly religious, intellectual or social work.

Seventh, a woman's society is valuable, either missionary, literary or charitable.



Eighth, a men's Brotherhood should be formed, taking the form of an adult class, farmers' club or some other organization of like nature.

Ninth, every member should contribute to the support of the church, to both current expenses and benevolences.

Tenth, the church should feel her parish responsibility by encouraging and promoting lecture courses, contests, gatherings, picnics, socials and other worthy efforts that will help to arouse the community interest.

Now in the teaching ministry of the church, let us emphasize some other things.

#### RURAL CHURCHES MUST PLAN.

First of all, plan for each new church year. Very few churches meet at the beginning of the year with officers, pastor and leading members present to plan the year's work. Many of them seem to be contented just to make both ends meet, and to receive enough members to offset members who die or move away, without any thought of advancement or laying hold of the many opportunities that come to them.

In my home city of Decatur is a large manufacturing establishment which has agents all over the United States, selling goods. Each year, about the holiday season, these agents are called in, their traveling expenses and their entertainment while in Decatur being paid by the company, and for two weeks they meet, exchanging ideas as to how they can improve methods and goods. In this confidential meeting fellowship and business are intermingled and there is one common interest, that of increasing the business and of making goods that are unexcelled. We can readily see the result as each of these men goes back to his own territory to take up the work for another year. Why not have some such plan as this in the church? Is it not the greatest organization in the world? Does it not have the greatest work that was ever entrusted to men, that of interpreting God's thought to men and leading them back to God? Then let me suggest that in our church activities, in the teaching ministry of the church, this plan be adopted for the year.

May I give here an experience in my last pastorate? The year previous to this God had blessed us richly in our church work, in the bringing of many souls to the saving knowledge of Jesus Christ. But as I looked over the names of the many who went to make up our community, carefully weighing each one in my thought and mind, it seemed to me that in the year to come we ought to be used by God in such a way that we could bring one hundred more souls into His kingdom. This seemed a great burden upon my heart and at the beginning of the year I called my officers and members together and we talked the matter over in detail. We agreed that with God's help, it would be possible to bring one hundred souls to Christ in that community that year. At the next Sabbath service I told the audience of our hopes and plans and with faith in God that he would help us I publicly announced that the first Sabbath of each month would be set aside to receive those who wished to identify themselves with our church, and that at each public service during the year we would give the gospel invitation for men to turn to God. There was perfect harmony with the leaders of the church in the plan, and as a result, at the end of the year, without any special meetings, or evangelist to help us, there were added to the roll of that church 98 members. We believe that what one church can do any church can do, and we



would encourage you to make some plan in advance of what you have done, that new territory may be won for the Master.

#### ONE SABBATH SERVICE ONLY.

Second, we believe the teaching ministry of the church in many places would be more strongly fortified by having only one service on the Sabbath, and that the morning. Then let the minister put the very best of his life and spiritual power into that one service. We believe this the better way because of the distance many country people have to go to church. There is such a thing as religious dissipation and often we find people going to their tasks on Monday morning more wearied than they were Saturday night, because of the many activities that have taken up most every moment of the Sabbath day. God made the Sabbath and hallowed it, not only as a day of worship, but as a day of rest, and we believe that rest is worship because it gives time for thoughtful meditation and communion with God. Thus by having but one service on the Sabbath, and that a big one, we would rally to the church the entire community. This does not mean that we would not have other services on the Sabbath; it means that there would only be one great hour of worship, and that at the morning hour. The evening could then be given to preaching in the school houses round about, or perhaps in some of the abandoned churches that are found in all rural communities, thus serving in a larger way.

#### BIBLE STUDY CLASSES IMPORTANT.

Third, let us suggest another way of ministering to the community, by means of bible study classes. The excuses ministers give for not having such classes is lack of time, or that they live so far away from the church. When I say bible study classes, I do not mean that these should necessarily be taught by the pastor. In my church in Bement, Illinois, which is a small country town, we had one winter one hundred and twenty-five members engaged in bible study. There were nine classes with an average attendance of eighty-seven each week, covering periods of from six to twelve weeks, some coming from the country in severe weather to attend. We attributed the success of this bible study to two things: first, in these nine classes we offered to the people a variety of studies, covering practically the entire bible. In addition to this we had personal work and mission study classes. Another secret of success, was that we had short courses of study, lasting only from six to twelve weeks each, and the people were glad to give this time.

#### THE CHURCH AND FARMERS' MEETINGS.

Fourth, let us speak also of the opportunity that is before the church in the way of farmers' institutes. Our agricultural colleges hold such institutes, but they are largely held in the towns on account of the railroad facilities, but many a church in the open country could get back of a farmer's institute and carry it on with great profit for two or three days. In the spring of 1913 we held some institutes. If you remember, our season was quite unfavorable for the sowing of oats, and it was delayed for several weeks. The week that the farmers were anxious to put in their crop, we had planned to hold the institutes in several of the country churches, because we thought oat sowing would be over and there would be a lull in the farmer's work. We had made our arrangements with the agricultural professors for that week, so could not recall the meetings conveniently, so these institutes were



held in the open country, during the very busiest time, and yet so interested were these farmers, that we had an average of 84 at each institute.

#### COUNTRY VACATION SCHOOLS.

Fifth, country vacation schools could be carried on with profit, somewhat after the city plan, where they have children meet for a half day for a period of a few weeks where they are taught bible lessons, enough of manual training to keep the interest, some singing, some gymnastic work. The reports are that this work has been most helpful and a means of strength to many of our city churches. Why could not a similar school be carried on for say two or three weeks in our country churches? Make it a rally for the children of the community to meet a half day in the church and there be taught the rudiments of music, lessons in the bible and nature studies, interspersed with games and picnics. We believe there would be those of our young people who would help the pastor conduct such a vacation school, which would be both interesting and helpful to the community.

Fifth, church federation can be effected where the churches of the community work together so there will not be conflicts between denominations as there have been and are in some places today. Sad, indeed, are the stories of country church quarrels and jealousies. Only recently we carried on a protracted meeting in a church where four miles beyond was another church of the same denomination. The pastor, because of some jealousy, advertised and prepared to carry on a special meeting at the same time, thus dividing the energies and attention of the community and publishing to the world the fact that brethren could not dwell together in unity, even unity in the desire to bring souls to Jesus Christ.

We believe there is a large place here for the country churches, not only to plan their work for their own parish, as spoken above, but to so plan their work that there will not be this conflict, and this is necessary in order to conserve our thought and attention and hasten the coming of the Kingdom of God in the world.

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### THE VILLAGE CHURCH AND ITS RESPONSIBILITY

BY REV. CLAIR S. ADAMS.

**W**E are told that the village is the ultimate goal of nine-tenths of the farmers who leave the farm. That is where they spend their last years and die. Some careful statistics taken from my denomination tell us that 44% of all the Presbyterian churches in the United States are in towns of 2500 and under; 29% are city churches, and 27% are churches in the open country. In other words, about 71% of the churches are what we might call village churches, or churches in the open country; or using the broader term that the government uses in the census reports, 71% of our churches are country churches. If this be true of other denominations, we can with confidence say that almost three-fourths of the churches in America are country churches. It is of this village church that we wish to speak, and of its responsibility in the matter of building up religious life. There are two or three reasons why it must acknowledge its responsibility in this matter.



First of all, there is a growing apart of the town and country which especially calls for the ministry of the church, a ministry it is especially qualified to give. A generation ago the farmer and the town people were quite closely identified. The over-plus produce of the farm found its ready market in the town, or with the country merchant, and the people of the town looked to the country round about for their supply of food and even raiment, but that day has passed. With the growth of industrialism there has been a gradual growing apart of the town and country and a decrease in their mutual helpfulness until today the farmer does not sell his over-plus of produce in the town or village, but passes by the stores on his way to the elevator or car where it is stored or shipped to the city that lies beyond. He is more concerned with the markets of Liverpool and Chicago than with the markets of his nearby village. Again, he buys no more of his local merchant than formerly, but his goods are brought in from great department stores in neighboring cities in car load lots, or his mail orders come to his door by parcel post. On the other side, the town people do not feel much dependence on the country round about for provisions as they receive these largely from commission merchants.

In Decatur, Illinois, the produce we buy in our stores is actually purchased from commission merchants in Chicago, while farmers living about Decatur who have any large amount of produce to sell, send it to Chicago to commission merchants. It may be that produce raised there is consumed right there, but on the way from producer to consumer it passes twice by rail between Decatur and Chicago, with all the expense incident to transportation, plus exorbitant commission rates. Then we wonder why prices are high.

#### VILLAGE CHURCH HAS DOUBLE PROBLEM.

Right here let me say that the village church occupies a more difficult position than either the city church or the church in the open country, for it ministers to two distinct sets of people. City churches are largely class churches, ministering almost entirely to city people with city ideals, customs and habits of life. The church in the open country ministers to the farming class alone, and though they may be rich or poor farmers, they all have common traditions, habits of life, and ways of doing things. The village church, however, ministers to two distinct classes of people. There is the class that makes up the town—quite citified in its way of thinking—aping the city in its dress and manner of speech and even in its recreation. For village people look forward to the time when they can move to the city, so they copy the city methods and habits. At the same time, the village church ministers to the many farmers nearby, consequently the problem is more difficult.

To bring country and town together the village church must reach the rural community outside and this is what we wish to speak of, first of all, because her stability or permanency depends upon it. A large proportion of our American people move from the country to the town, and from the town to the city, and it is considered almost a disgrace for a person to move to a smaller place, than where he last lived. This largely affects the membership of our churches and were it not for the fact that our town churches are constantly increasing their membership by revivals, and by those who move in from the district round about, they would go down in this great moving time. The stability of the village church depends upon its feeling its responsibility for the country about it, and reaching out through missions and outstations and laying hold



of the lives of the young people on the farm, and getting them thoroughly established for God, before they move to the cities.

The village church must reach the outside community as an outlet for its activities. We have in the church today too many members who have nothing to do, too many young people with little opportunity for service. If the church realized its responsibility to the country about the village, it would give its members a wonderful outlet for the use of their talents in the way of speaking, singing and along social and athletic lines. The officers of the church and the devout members could go out and hold evangelistic meetings in the school houses round about, and best of all young people could gain rich experience in such special work for Christ.

To illustrate what a village church may do when it sees its opportunity, you will pardon me if I speak of my last pastorate in Bement, Illinois. About ten years ago I was called to this church, and found it self-satisfied. It was a kind of mutual admiration society, proud of the fact that it paid its minister a living wage; proud of the fact that the church had so many of the first families of the community and that they had contributed through all the years to all the boards of the church. The members were contented with themselves and with the work they were doing. The church was not only a self-satisfied church, but a selfish church, self-centered in the town, only thirty members living outside the corporation. There was no responsibility whatever on the part of the officers and members toward the country round it.

#### MANY CHURCHES BUT NONE FOR THE FARMER.

As I visited the field, I found that in the town there were four churches ministering to the people and whenever a new family moved in, there was a contest between the churches as to which might line these newcomers up. This contest always resulted in jealousy and there was absolutely no feeling of unity and helpfulness in town and no desire to get people outside of the corporation into the church. After visiting systematically in the town and surrounding country, the fact was revealed that there was a large number of people just outside that never went anywhere to church. None of the ministers ever seemed to have enough interest to call upon them and invite them to church, so they felt no obligation to attend and rather felt that they were not wanted. When I suggested to one of my elders that I go out to one of the abandoned churches on a Sabbath afternoon, he rather discouraged the thing saying, "Everyone knows the pews of the Presbyterian church are free and that services are held regularly every Sabbath day, and had been for forty years. There is a Meneely bell in the top of that steeple that can be heard ten miles in the country, summoning people to worship, and on every Sabbath morning that bell rings at nine o'clock to let the country people know that divine services are to be held that day in that church." This elder seemed to imply that if I went into the open country to perform this service I would not have strength to hold the services in the church in town. In other words, he wished me to realize that they, the Presbyterians, employed me to minister to them; I was to be their hired man. I was to put in all my time among their membership, visiting their families, giving soothing syrup to big babes in Christ, some over eighty years old, when their fur was rubbed the wrong way, and being entertained at missionary teas, and planning ways and eloquent sermons to help the membership of the church along. They intimated that I was getting outside of my bounds when I



felt any responsibility for the rural community outside. Another elder wondered if I was not getting enough salary, thinking that by these additional sermons I might be adding to my finances. The whole thought of these men and others with whom I talked in those first days of my pastorate there seemed to be that all the pastor's thought, attention and life was to be poured out on the group of people who were Presbyterians, and that I must be careful not to get over the fence into anyone's else pasture, but give my entire self to them.

In this neglected field were quite a number of abandoned churches many of which had been strong and almost self sustaining years before but because of the changes in population had weakened and died. We went out in the communities, preaching Sabbath afternoons and week day nights, without giving up a single service or neglecting the pastoral work in the home church, until we closed our ministry there after eight years of service, leaving a greater membership, half of which was outside the corporation, worshipping in five buildings instead of one. The church had grown from a little over 200 to nearly 500 members, with a combined Sabbath school, the largest in the Presbytery, and that in a country church.

#### PROMOTING EXTENSION WORK.

That it might be a help to some other village church or pastor, we will enter a little into detail regarding the principles which governed us in this work. First of all, in opening these abandoned fields, no new church was organized. I never organized a church in my life and I thank God I never have, for we have too many churches now in many of our country communities and villages. These rural fields, as we instituted services in them, were organized into community churches. Local officers were elected to carry on the work and practically the church was as independent as though it had no connection with the home church in Bement. Revivals were carried on, lecture courses, entertainments, bible study classes, Sabbath schools and socials, but in all these organizations there was no preference given to the selection of leaders because they were members of the Presbyterian church. Of course as a Presbyterian minister, I had no authority to receive any members into any other than my own denomination, and at the conclusion of special meetings those who wished to identify themselves with the Presbyterian church were received into the Bement church, our session going out from the home church to these people and thus receiving them into membership, and conducting with them the communion service from time to time. So we only had one membership, one church with a goodly number of members worshipping in five different places. We found several advantages in this: first, these people as members of the church realized they were members of something large and substantial and thus were encouraged; they felt they were not dependent on changing populations.

Let me illustrate: Our first work outside of Bement was at Prairie Chapel, a mission four and one-half miles south, which formerly had been a New Light Christian church. After several years of faithful work and some special services, about thirty members were added to our Bement church who worshipped along with the Christian people of the community, in this church; thus we were maintaining a community church in which all denominations were represented, but this handful of people felt that it might be of advantage to them to organize a Presbyterian church, and so suggested it to me. I discouraged the matter, but some of them were quite insistent and went to work to make out the proper



application to be presented at Presbytery. Before the April meeting of Presbytery, a real estate man came into the community and persuaded some of our leading families to move to the north and northwest, so leaving us with less than half of the members of the church that we had before in that community. Now had this been an organized church as under the old plan, losing within a few months about half its membership, it is most probable that the church would have gone down and become like many others, an abandoned field with a discouraged people. But inasmuch as there was no church organization here they did not feel the loss so heavily for they knew in all these experiences that the home church with its entire membership was back of them to help them.

Again, these out stations of the village church were insured regularity in services, as we gave them Sabbath preaching services at least twice each month, with services on week days as we could give in the form of prayer meetings or bible study classes, each field conducting its own Sabbath school each Sunday. The last five years of my ministry there, I had the help of an assistant, Miss Caroline Bowen, a graduate of the Moody Bible Institute, who preached, visited and helped with the many pastoral duties.

We did not emphasize finances, and though these have a close relation to the church, and are most important, yet we do not believe that many country churches die simply because they can not keep up the money demands. The work we gave was merely a labor of love, until we gained the confidence of the people, and then they rallied with more or less loyalty to the financial side of church obligation.

#### HOW OUR VILLAGE PARISH EXTENDED.

This made the town church responsible for the parish. We might say this Bement Presbyterian church reached in its influence on the north for ten miles; on the east fifteen; on the south fifteen; and on the west twelve. Its larger parish helped it to become a thriving beehive of industry and activity, where worship, Sabbath school, bible study and various other forms of church work and services gave us as many as twenty services in a week.

Best of all, though, with joy we remember all the work in that church, was the vision given to some of our young people through these opportunities of going out into the open country in the larger service for Christ, a vision which they heeded and obeyed, and which has placed them in position for special religious work, so that now some are in school preparing themselves for actual christian service. Today, there is one young man from the Bement church nearly through Auburn seminary, in preparation for the ministry; another young man is looking forward to becoming a medical missionary; one young woman is taking a course in our hospital, as nurse in the foreign field; two young men are attending the Moody Bible Institute in Chicago, fitting themselves for christian work; one young man is now engaged in Sabbath school work in North Dakota and his brother has been ordained into the ministry of a sister denomination. All of these young people received at least part of their vision through helping their pastor in these out stations and there heard the call of God.

We have given here some of the principles that moved us in building up a village church that has become a great power for good. Some one might say that the town church suffered by this over-emphasis on the outlying districts, but when I left the pastorate two years ago, the membership living in the town itself was



larger than when I began, and there was all this outside membership, which looked to the Bement church as their home. In fact, I believe as I carried out this plan, and impressed upon the church its responsibility for the country round about I was but fulfilling the Master's command when he said, "Go ye into all the world and preach the gospel." We have been building our fine churches, we have been increasing the pastor's salaries; we have been satisfying ourselves that our church was the leading one in the town or community; we have been satisfied to minister to our own membership and have forgotten that the church is to be the force in the world to bring it to Christ.

In conclusion may we say that the contrast between the old church and the new is something like this: Under the old thought, the church was the field and the minister and his little body of picked people were the force, and it was the business of this little body to go round and round in the humdrum duties of calling, ministering and satisfying and sustaining the people in this little field we call the church membership; this was the work of the ambassador of Jesus Christ; this was the high calling of the christian ministry, but may I say that the new conception we want to impress upon the ministers of the church and the vision we wish to put before them is, that the whole membership is the force—grant you some of them are weak and faltering, but we ought to make the membership feel that they are responsible as members of the body of Christ; members of honor and of dishonor. "I cannot say to the ear, I have no need of thee," but all must work together, a splendid force, and her mission, her field is the community round her, every home that is away from God; every life that needs to know God's love; every heart that needs the touch of high ideals of sympathy and love is our neighbor. The end of church responsibility is not the surrounding country, though that may demand her best effort, but is when she has reached the utmost bounds of earth, and has considered every human soul as within her parish. Thus the village church should know no vision other than doing her part in ministering and bringing the whole world to Christ.

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## SPECIAL SERVICES AS OPPORTUNITIES FOR RELIGIOUS INSTRUCTION

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By REV. CLAIR S. ADAMS.

**S**PECIAL services had a large place in the ancient church. Take the Hebrews for instance: We do not read so much about the regular sacrifices or services of the temple, but we do read many things in connection with the special days, the great feast days, the feast of the tabernacle, passover and pentecost. The same is true of the Roman church—its feast days being days of opportunity for impressing its beliefs upon the people. Our reform fathers who rejected the Roman ideas in the middle ages went to such an extreme that if they did not prohibit, they at least looked with disfavor upon all church festivals and special services. Within our memory there were churches that did not observe either Christmas or Easter.

The Lutheran, Episcopal and Roman churches have always observed what is called "Church Year," following a well balanced



scheme of creed and practice throughout the year. This gives the attendants a rather thorough knowledge of all the leading beliefs of the church and is undoubtedly a good thing to keep the church and the membership from being lop-sided. We have known of ministers who have so emphasized their special fads in every sermon and conversation that their membership has become radical. The liturgical plan has been a good thing to keep a well balanced creed and system in practice.

A way for non-liturgical churches to protect themselves against over-emphasis of any one doctrine or practice is by the use of special services which not only contribute to the strengthening of the church but have other advantages. When pastor and officers see that the church is getting weak along a certain line, services of a special nature may be beneficial. Again, there is nothing that will so rally the entire community and reach the outside people as such services. In many of our communities you will find that few people outside of the church membership attend divine worship. Often in the days of my preaching have I looked over the audience on a Sabbath morning and seen perhaps not more than a dozen people who were not professing christians. In fact, in our regular services we do not reach our own membership, let alone the outside people. Special services give us the opportunity, not only to reach those in our own membership, but those who do not ordinarily attend.

#### THE REVIVAL MEETING.

First in importance is the evangelistic meeting, or the revival, and I would suggest that wherever possible this be a union service. It matters not what may be the motive of a denominational revival in the community where there are other churches, outside people look upon it as selfish and conducted primarily to build up that particular church. A union meeting disarms such criticism for it shows the world a united christian people working together in the community for the upbuilding of God's kingdom. We do not believe it necessary to have an evangelist for such a meeting, but have found our greatest joy in doing this work ourselves. In fact the minister who gives this work over into the hands of an evangelist is sacrificing the deepest joy that an ambassador of Christ can know, for if in heaven there is joy among the angels over one sinner that repenteth, there is also much joy to a minister to feel he has been instrumental in enlisting some soul under the banner of the cross. If the minister gives over this great work to some outside man, he sacrifices the greatest joy he can know.

Personally, we do not favor a long revival meeting. Our experience has been that in a meeting of four or five weeks about half or two-thirds of the community waits until the time is half over before it begins to show any interest. By that time the few who have become interested have wearied and when the meetings are closed the whole community is worn out and glad it is over. It is better to close the meetings while the community still feels they should continue than to have people glad the meetings are to close and give them a chance to rest. For several years, instead of special services running for weeks, we had but a week of meetings each quarter just before the communion service and preparatory to it. They were evangelistic in nature, the invitation being given each night, and they always resulted in bringing to the church those who were received into the church, the communion service being the crowning of this effort.



In the last few years there has been a disposition on the part of our evangelical churches to follow more the practice of the liturgical churches in devoting the last week of the Lenten season to the observation of what we call "Holy Week."

Second, special meetings for missions are valuable in rural church work. The study of missions with missionary sermons and activities on the part of the membership along this line ought to have a large place in the rural church, because the people in the rural districts are often narrow because of their environment and the world vision can only come to them as they study great missionary activities.

In the third place, concerts, anniversaries, home comings and basket meetings can all be made of interest and help to the church. Let the young people have charge of some of these special services. We remember in our boyhood days in Ohio of the splendid Sabbath school concerts that were held once a quarter on Sunday night. The church service was given up at that time with the result that the church was crowded and the Sabbath school and church were greatly benefited.

When we go into many of our country churches and hear the rag-time music that is given there, the flimsy, cheap songs that are sung in a poor way, we feel the need of education along the line of real music. We believe the Sabbath schools and choirs, by giving oratorios and cantatas and song services, and the minister giving the history of the writers and composers, can raise the standard of music in the community, for the world loves good music and is attracted by it. In connection with this would be the singing school, which ought to be a part of every country church's life. Every community has people who love to sing, but do not know how, and here is an opportunity to teach them.

#### ANNIVERSARIES MAY BE MADE HELPFUL OCCASIONS.

Let us observe the anniversary of our church life. How many of you know the actual time your church was organized? Do you ever celebrate the anniversary? We believe here is an opportunity for ministering in a large way to an entire community. Several years ago occurred the fortieth anniversary of the organization of our Bement church. A committee began to prepare for this celebration months before and when the time came we had a home-coming of eight days, each having something different, and yet all contributory to the worship of the church and to the education of the community.

The anniversary began and closed on Sunday. Separate days were set apart for the various departments of the church. Monday was the day for young people, with a reception in the evening. Tuesday was missionary day. A former pastor and wife were present from the foreign field, and the afternoon meeting was for the women, the pastor's wife speaking, and in the evening a stereopticon lecture was given by the former pastor. Wednesday was prayer meeting and we had letters read from the old time members who could not be at that service. Thursday we had all day meeting in the park with a basket dinner, after which we listened to reminiscences from some whose sacrifice for the church in the days of her erection were interesting and inspiring, and what a day! a day of praise and prayer. Friday was Sabbath school day, devoted to the interests that centered around it. Saturday was a rest day, with a street meeting in the evening. On the Sabbath we held a special communion service, and at that



time received several into the church, which ended the forty days preceding our anniversary in which we had endeavored to reach forty for Christ.

It was a home coming that was a great uplift, not only to the church, but to the entire community, and the memory and influence of it still remain. Why cannot we use these anniversaries and home comings as important days in our church life?

Basket meetings are of profit to the church, whether in the summer or winter, although ordinarily they are confined to the summer months when people can come in the morning and bring their dinner and have services both morning and in the afternoon. Sometimes country work has been revived when interest seemed to lag by having such a meeting.

We know of several churches that observe Thanksgiving day. The congregation, like a family, meet at the church and have dinner after the Thanksgiving sermon. New Year is a splendid day to observe in the church. A generation ago New Year was the time of open house, refreshments and oftentimes of wine and carousal, but in later years homes have been closed, and we hear little of New Year observances. For quite a number of years it was our custom to have a New Year reception in the church. As this is usually a day of closed stores, when men are not with their business but with their families, there is no more opportune time for the church to have something that will minister to the social need at this time. In our observance the church parlors were decorated, dainty refreshments were served, and the pastor and wife with the elders and wives received. Some came for only a little while and others for an hour or two of fellowship on the threshold of another year. In the evening the young people came and had games and a social time. The impress of New Year's day was large upon the lives of the members of the church, and added much to their loyalty.

#### STREET MEETING REACHES MANY.

A form of service which we found perhaps more helpful than any other in reaching the unchurched classes in the country town and the surrounding country is the street meeting. I know there is some criticism against it, and I have had to meet it. Some say it is undignified for our Protestant ministers to get out upon the street; some say we are copying after the Salvation Army, but even the Salvation Army was not the first to hold street meetings, for the blessed Master himself and the apostles went out into the streets and highways and preached the gospel. Always the church has practised preaching in the open air out in the squares and open fields, wherever men gathered under the blue canopy of heaven, and listened to God's wonderful message of love.

In our last pastorate, during the summer season, it was our custom to conduct a meeting every Saturday night on the public street of our little town. These meetings were usually in July, August and September. Many farmers and their families go to town on Saturday evenings, as also do the town people, so our streets are usually thronged as on no other night in the week. Here is a splendid opportunity to preach to people, many of whom do not go to church, and we ought to take advantage of it. We had a folding organ, which proved to be the best investment, for the amount of money, the church ever made. We used it at cottage meetings and oftentimes at funeral services in homes that had no instrument of music, but it was indispensable at these street



meetings. In the afternoon we advertised the meeting by chalking the walks. We always held it at the same place, getting permission of the mayor or board of the village. When eight o'clock came, we went to our accustomed place with the baby organ and one or two persons to help in the singing, which was always familiar gospel songs that all knew. Frequently we had a special piece, or solo, and occasionally some one would play on the cornet for us. Then there would be a brief prayer and reading of a few verses of scripture and a short gospel talk, the whole service not exceeding thirty minutes in length. During the meeting announcements would be made of all the church services to be held in the town on the morrow, and urging the people to go to some place of worship. The Lord's prayer was the benediction, and when we came to this part of the service, I requested the men to remove their hats in memory of mother as we repeated the prayer she taught us. Thus some good seed was sown which brought forth fruit.

#### AN OLD FOLKS DAY IS EFFECTIVE.

Another service we held each year which proved a blessing was old folk's day. To balance up the children's day service in June, we had the other in October when the leaves were beginning to turn gold and red and brown, with which our young people would decorate the church. A list of the old people would be carefully made and invitations sent out to them. Automobiles and carriages would go for them and take them home after the service. The front seats were reserved. The ushers met the guests at the door and in the old fashioned way would offer their arm to the old ladies as they escorted them to front seats. A committee of young women gave each of the old people a flower to which was attached a card of greeting and also the pastor's text. In the choir sat the choir of former days and the hymns that day were the old time hymns that endeared themselves to the hearts, for they were sung in the time of trouble and brought hope and comfort to the soul. The text of course was appropriate, but some way that service never closed as other services do; in fact, there was no closing until the last man and woman had gone from the church. After the last word from the pastor and the last prayer we always sang "God be with you till we meet again," and during the singing of this farewell song, everybody shook hands with everybody else, and so the service closed with the memory of greeting and love and christian fellowship.

On this day the church was always crowded, and we can look back to some whose hearts were touched by God at this service. A beautiful custom of the day was sending one of the flowers, with card and text attached, to those who were not able to come. We remember how such a flower and verse sent two consecutive years to an old lady, an invalid who was not a christian, and who had never been inside the church, so touched her heart that she sent for the pastor and told him she had given her heart to Jesus Christ and desired to be received into the church. Her people being members of another denomination the pastor suggested that it might be more pleasant for her to identify herself with their church, but she replied, "No, I want to be a member of the church that remembers the old folks."

Cottage prayer meetings are also a great source of good. We read in the epistles of the church that they met in the house of some of the saints, and many are the precious meetings that have been held in the homes of the people of God. In looking over the history of the church of Jesus Christ, we believe that the things



which have kept her true to her divine ideals have been the memories and the lessons that have come from the homes, rather than the preaching places, and during the times of persecution, when the church has had to give up her life, that she might live, it has been the homes and hearthstones where the little company came to worship God.

Nothing else develops the spiritual life and gives power in prayer as does the prayer meeting, and this development has its greatest opportunity in the cottage meetings. People that will not open their mouths in testimony or prayer in the church, will find courage to do so in the home of some friend, thus finding joy and inspiration in this blessed school of prayer. We believe these meetings especially desirable for rural churches, and let us suggest a plan which has been successfully tried in a number of places:

Let the session or the officers of the church make out a schedule of prayer leaders who will go one week to a certain neighborhood and there have their hour of prayer, song and praise, and the next week go into some other part of the community, and so throughout the month, thereby having the opportunity of reaching nearly every home, during the winter season, and often resulting in renewed interest, and possibly conversions, and additions into the church.

But why need we speak further of these special services? Each church may provide many forms of such service that will meet her need, and prove fruitful in quickening the spiritual life, and building up the church of Jesus Christ here upon earth.

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## SOME MESSENGERS OF HOPE

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By REV. CLAIR S. ADAMS.

ONE who has followed our lectures thus far and noted the many problems that are involved in the upbuilding of a rural life in America that shall be at all satisfying and comparable with the city life that is so fast developing, might be discouraged if he thought only of these and the perseverance needed to bring them to a happy solution. But there are some splendid messengers of hope appearing on the horizon that seem like prophets proclaiming a great new day; guardian angels watching and encouraging us here in America, and in our closing lecture we wish to speak of some of these messengers.

First of all is the rapid growth of sentiment toward agricultural courses in education. There are more students in one of our numerous agricultural colleges today than there were in all such schools in the United States twenty years ago. This splendid company of young people, the very cream of our country, compose this army that is coming to the front in the endeavor to build up this new rural life.

What a fine prophetic note may be found in the hosts working for rural improvement. The department of agriculture at Washington, D. C., of which we are justly proud, with its hundreds and thousands of workers, not only in the home land but in foreign lands, are constantly studying and bringing to us the best in plans and plants; the increased population, the awakening to



the fact that we have not considered the soil holy, but have abused and wasted it, so that loss has come to our nation because of this; the increased expense in living, the experiment stations of our state agricultural colleges; the introduction of agricultural studies in our high schools and in the upper grades of all our rural schools; the farm bulletins and papers that have arisen within the last few years; the agricultural experts and county advisors that are being employed; the farmer's institutes, short courses, car displays; the efforts on the part of the manufacturers of agricultural implements and of railroads to instruct along the lines of scientific and progressive agriculture. All these speak of the rapid growth of agricultural advancement in America.

Yet, when we think of it, how small is the price we pay for these things compared with what we spend for war. Although America is a peaceful nation and has no large standing army, or powerful navy, do we realize that \$22.00 is spent for these to every \$1.00 for education, and whenever we spend \$1.00 for agricultural education we spend \$37.00 on our army and navy?

#### ALL FACTORS IN RURAL UPLIFT WORK TOGETHER.

Second, the awakening and co-operation of all the factors in rural life uplift is encouraging. A few years ago the church, school and farm each stood alone, thinking the task before them peculiarly its own and that there was no relationship between or dependence upon the different agencies or factors. But now we are beginning to realize that the task is too large for any one of these and that all must work together. This is the day of conferences. This is the day when the church and school are invited to have their part in the agricultural college, thus touching lives along spiritual and ideal lines for the rural betterment. Today when a national corn show is held, part of the addresses and the most interesting of displays are given by our church boards, illustrating rural church work. Today no short course in an agricultural college is complete without inviting some ministers who have been successful in country pastorates to tell the secret of their success, and to give the farmers there a vision of what they may do to better their respective churches. Our normal schools are training teachers who will make this rural betterment their life work. Many of our states have federations for country life progress, where all institutions that have to do with the upbuilding of rural life meet in conference day after day, each bringing some contribution, that out of it may come the solution of this common problem. In fact, rural uplift is the key note of all our conferences and you will find there minister, teacher, farmer, home maker, banker and scientific educator all putting their lives into this twentieth century task. Is this not a splendid prophetic note of encouragement, when all these interests are united in the one great advance movement that is before us?

#### CO-OPERATION AND CHURCH FEDERATION ARE GROWING.

The third messenger of hope is the co-operation of farmers and the federation of churches. The co-operation of farmers has just begun here in America, but the sentiment is growing. This will be a little more difficult for us than in other countries, because of one or two conditions that make us different as a people. America is made up of so many different nationalities that it will be hard to bring these nations to a place where they trust each other as they would were they of the same race with similar habits of



mind and thought; and then there is the independent spirit that is ours by blood right which hinders in a way the co-operation other countries enjoy, but we are beginning to practice this spirit, and find it is already bearing its fruitage. The American farmer is "From Missouri!" regarding this, and co-operative institutions are showing him what can be done along this line.

For example, when the fruit growers of California can unite and pay the large freight rates half way across the continent, and then sell their fruits at a much higher price than we get for fruit that is raised right in this part of the country, we are convinced of the efficiency of co-operation in selling. Again, we realize that by combining we can buy much cheaper, as is being worked out in many communities. Today in the state of Illinois there are 300 co-operative farmers' elevators, where only a few years ago there were none. The farmer has not only been the object of ridicule, but of graft by both buyer and seller. If he had anything to sell, he took the price fixed by some one else; if he had to buy, he gave the price that some one else established, and never has he had the opportunity of saying what the price should be either in buying or selling. The fact is that the American farmer receives a smaller proportion of the profit on the produce he has raised than any produce sold in any part of the world. As commercial civilization has developed, the middle men have increased in numbers, each looking for his share of the profits.

#### PRESENT EVILS IN MARKETING FARM PRODUCTS.

To illustrate: About two years ago in the month of February a man in New York City bought eggs, paying fifty cents a dozen for them, which was not considered an exorbitant price at that season of the year. He bought them for fresh country eggs but when he got them home he found written on some of the eggs the address of a man in Tennessee. He had just enough yankee inquisitiveness to send a post card to this address with the inquiry as to what it meant. In due time he received a letter from this man in which he said that he had written his address upon some eggs he had sold, hoping that the last man that bought them would write to him, because he wanted to find out the last price paid for them. He himself had only received seventeen cents a dozen for them. Thirty-three cents on each dozen was taken by men that just passed them from one to the other, and this is only one illustration of what is happening all around us, causing the exorbitant price that is being paid for articles of food here in America. The just proportion of profit is not going to the man who produces, nor will it become his until the farmers co-operate.

The farmer has to meet combinations at the very threshold of his home, both in buying and selling, and co-operation is the only remedy. We are glad of the various organizations that are springing up all over the land, which are prophecies of a better day, and with this is also coming the federation of churches. We know quite a number of small country towns, having a few years ago, several little churches all perhaps depending on home mission money to keep them alive, in which the churches have federated into one, putting their money together and employing one pastor who gives his time to building up the social and spiritual interests of that community.

Fourth, the growth of conservation ideas is a great messenger of hope. We must attribute to Ex-President Roosevelt the beginning of the agitation for this rural uplift. The facts brought



out by his Country Life commission have started all this movement and the great Conservation Congress, until the necessity of conserving our resources is beginning to be forced home upon us. As an American people we are realizing that we have been wasteful. God has endowed us liberally and given us such mighty treasures of good things; such vast expanses of prairie; such immeasurable wealth of forests; such great storehouses of minerals, that we have been prodigal in our use of them, and the mighty influx of new life from across the sea, bringing new problems and conditions demanding our best effort and financial help, make us realize the situation in a new way, and these warning voices are but our best friends urging us to conserve against the time of need. Even our bankers, manufacturers, agricultural landlords, and teachers are interested and surely our preachers ought to be. "Back to the soil" is one of the present day mottoes. One can scarcely pick up a magazine or paper which has not some article in it as to the desirability of the country life—perhaps about some man who has moved from the city to the country and made good.

#### FARM CONDITIONS SHOW MUCH IMPROVEMENT.

The fifth messenger of hope is farm improvement. Let us contrast the way of doing things today and in our father's time and see what an advance this country has made. There are men and women living today who have seen the growth of agricultural implements in a way no other age has witnessed. For example: some of these older people saw the wheat cut with a sickle, when they were children. It was the same kind of an implement that was used when Ruth gleaned in the fields of Boaz 4,000 years ago, and all through those ages down to this past century there had been no particular improvement in the method of harvesting grain. Grass was cut with the grass hook; threshing was done with the flail, and the crude implements of the farmer might, almost all of them, be carried upon his back, but see what a change has been wrought within the last three-fourths of a century! The mowing machine, the self-binder, the great harvesting machines, the gang-plows; in fact farm machinery has been revolutionized until today men ride while at their tasks, where before it was only with the hardest muscular labor that they could accomplish their work. The telephone, the rural delivery, the automobiles, the electric lights, the improved roads and the parcels post and many things of like nature are today within the possibility of the countryman. What splendid improvements and facilities for the farmer in making life so much more enjoyable than in the olden day; and with all these, what cannot we do to produce a better civilization and have more time for the things worth while; more time for the social duties—thus making possible a grander, richer, nobler life.

And finally, the high christian character of the leaders in this movement, is a splendid messenger of hope. Some one has said, "Agriculture is the one business of the world where to be permanently successful a man must be religious." We cannot but think this true when we realize that all the great leaders in this movement are, above everything else, christian men; they may be scientific men, educators, inventors, but first of all, they are all great men religiously. Some one has said that there has never been a great inventor who has not been a christian man. The Presbyterians look with pride to Cyrus H. McCormick who invented the reaping machine, and thereby made such a great contribution to the improvement of rural life. The world thinks of him



as one of the great inventors, but we think of him first of all, as a humble elder in the Presbyterian church; and it is true of other great men.

Such agricultural leaders as Dean Bailey of Cornell, Dean Davenport of our own University in Illinois, Dean Butterfield of Massachusetts, Dean Curtiss of Ames, with hosts of others that lead in this great rural awakening, confidently face the future, which already glows with the dawn of a new day for our country church, and school and home. All these are men who bow their knees in humility before the Cross of Jesus Christ, and hail him as the king of their lives. The contribution of such lives, together with our great agricultural writers, cannot help but purify the streams and rebuild the waste places, and bring in the new day, when the Psalmist of old shall have the prophetic desire of his heart fulfilled, and the earth shall be the Lord's, and the fullness thereof.

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## MESSAGE OF THE CHURCH AND MINISTER TO THE COUNTRY PEOPLE

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By WILLIAM HINTS.

College Pastor of the Methodist Church at Iowa State College.

**E**VERY one of us who has listened to the description of modern country conditions and needs, and who has observed personally the new situations of the past fifteen years, must feel that there is a necessity of adapting one's ministerial message to the day in which we live. When we study reports of churches and find that since the year 1900 hundreds of country churches have been abandoned, we are forced to believe that there has been a real failure on the part of the church to connect with the country. It is equally true that the country has not responded to the church. It would be unkind to lay all the blame on the preachers. It would be unjust to lay the blame at the feet of the denominations. We would be wrong in charging the blame entirely against the country people. There must be a distribution of the blame. The blame must be allocated to (1) an inefficient ministry, (2) poor denominational systems, (3) changed materialistic attitude of the farmer, (4) a changed population.

### RURAL INEFFICIENCY IS GENERAL.

Now the church is not the only institution which is inefficient in the country. The town board is just as inefficient. The rural school is not up to its proper standard. The roads are bad. Farm buildings and homes need renovation. Agricultural conditions, though improving, still need much improvement. But we should take but little consolation from the company we are in. The fact that hundreds of churches are standing unused among people who go nowhere to church is a fact so striking that it demands attention. And when we face the remaining humiliating fact that so many more churches are being so little used—so sparingly attended, we fairly shudder for the future unless some heroic treatment may be used.

Before going into the subject of the minister's message to the country people, let us consider a very important matter which may



lie back of the question. Suppose we think of the church's message first. Let each one of us think of his own denomination. "What message is my denomination giving to the country people?" "What message should my denomination give?" We know that some denominations have very few churches in the open country. That announces that they have little interest and little response in the open country. The church of Jesus Christ must not, dare not, pass by to leave untouched and unhelped, any fraction of humanity, regardless of color or geography or occupation. If we belong to a denomination which does not include in its scope of service every child of the universe, we seriously question the right of that denomination to class itself as a part of the church of Jesus Christ, the Universal Savior and Friend. I wish to emphasize this that our denominations at this hour should by all means strive to make plain to the country people that they are anxious to serve them in every possible way which properly belongs to the capacity of the church. I know of communities which have been so neglected that they have a right to think that the churches care little for their religious welfare. I know of thousands of square miles never traveled by preachers on the King's business. There are thousands of people on the prairies and farms who in anguish of heart cry out: "No church careth for my soul!"

Now perhaps it is because of the scarcity of preachers that some country churches are abandoned. Perhaps it is because the leaders do not feel the importance of supplying the country church at any cost. I do know this that men are sent to missions in the cities and their salaries are well supplemented by grants from Home Mission or such societies, but it is much rarer to keep up a country church by similar expenditure of mission money. I am not saving a word against aiding city missions. I simply plead that the country charges shall not be slighted. Without trying to be over critical of denominations, does it not seem to you that the country people in many communities you know have some justification for harboring the feeling that the church as a system has shown but lax interest in their spiritual welfare?

#### A SYSTEM THAT HAS FAILED.

Now, the church has used the open country as a piece of additional pasture, not for the sheep, but for the shepherds. Here is a town church. It can pay \$700. But \$700 isn't enough for a real good preacher. However, if that open country church can add \$300 it will maintain a \$1,000 man. The denominations have openly argued on these lines. That is an unchristian-like method of administration. Such a plan deserves to fail. It is time that denominational systems realized once for all that we are not in the business of furnishing ministers with fine salaries, but we are in the business of introducing as many men and women and children to Christ as possible.

One of the big messages the country people are waiting to hear is the message from all the denominations that we have a genuine desire to see them helped into better things. This desire may not be expressed. The farmer is too independent and reticent to talk much about it, but the right disposition on the part of the church will bring out an expressive smile of joy upon the farmer's face.

If the church as an organized body only had a vision of the needs of the country it would surely make more adequate provision for the country ministry. It would work out a better system for ministration. It would adopt the principles of federation. It



would quit the absent treatment method. It would be ashamed of sending pastors to country towns and giving them country points at which to preach simply for the purpose of bringing up salary to a certain mark. It would realize that no country community of any considerable size can be served from a country town of 1,000 people—unless under peculiar conditions. The average pastor of a country town has enough to do if he cares for the town and country resident members of his church. He has not the time and means for country visitation and for the care of the social welfare of the people surrounding the church in the open country. We are speaking now of normal conditions in Iowa, Illinois, Wisconsin and the central agricultural states.

Most of our denominations have lacked in statesmanlike vision and action toward the country work. We have foreign mission boards—very active. Home mission boards very active in the matter of city missions—and helpful in keeping up pastor's salaries in pioneer work. We have boards looking after the southern work. But very few churches are studying, sympathetically, the important work in agricultural districts. The plea we make is not that interest in other causes be reduced, but the interest in this cause be increased. And the specific thing we plead for is that the church leaders be brought to a real appreciation of the folks who live in the country. We should make a big distinction in our thinking between guarding and developing the interests of the denomination so that we may have something to report—hold, possess,—and having a sincere, yearning desire to serve and save people.

#### WHAT THE DENOMINATIONS MUST CONSIDER.

Before leaving this phase of the subject, and in order that we may not be entirely critical and destructive, we would suggest some things which we believe should be immediately considered by all denominations.

1. The large country districts are not being adequately served by ministers from country towns.

2. Some country districts are being ruined by excess of denominational churches. Overlapping is a crime.

- (a) To meet the emergency the denominations must be big enough to put into practical use the principles of the church Federation societies. Let the commissions decide what denomination has the best opportunity to do the best work in those given communities and let the others keep away. Such a message as that from the church today will be a blessing to the rural districts.

- (b) Let us have country stations wherever practicable. I firmly believe that the church given to this plan will be the most useful servant of the modern age. The future may have another need, but the country need of today if I have sensed it at all correctly is the need of a closer touch with the ministers. The country people would like to talk about "our preacher," "our pastor," instead of referring sometimes to "the minister from town," etc. The church responding with the country station will be best prepared to meet the needs of the awakening of the rural population—an awakening which matches in many respects the Chinese Awakening of which we are hearing so much. (The irony of it all is that we are responding to awakening China more enthusiastically than to our own awakening in the country districts.)

It is quite likely that Home Mission Boards will have to help in establishing that kind of work, but they will only be called on



for awhile. It will be productive work. If the surplus churches are eliminated there will be a constituency large enough to properly support the right kind of a country pastor.

Let me repeat that the denomination which puts its machinery, its resources, its brains and its heart—and the greatest of these is heart—into the country work will be giving a message to the open country which the farmer and all his folks will be happy to hear. The message of the church should be the message of a newer attitude.

#### THE MINISTER NEEDS A MESSAGE.

In the next place I wish to speak about the message of the minister. Here again the big message will be the message of the man himself. If the minister needs a message from Christ himself it is at this very point. The biggest shame upon the ministry today is that the minister is ashamed of country work and is unashamed of himself. The man who attempts to do country preaching when not in real sincere love with that work will not reach the hearts of country folks. You meet preachers and say: "Where do you live?" "I live in —," which is a town of fair size. "Have you any other charge?" "Why, yes, I have a little out appointment—about four or five miles from town." And in the manner and tone of the statement you detect a note of apology from the man that in the order of providence he has not advanced so far that he can do without that "thorn in the flesh." At the last annual conference I attended in my own church, I asked a young man: "Are you going back to—?" He said: "I don't really want to go back." Then he told me of an opportunity he had to go to a smaller church in one of the largest cities. He said he would go at a sacrifice in salary—"but," he said, "I won't have any country point up there." Then when he saw how I looked on that kind of a statement, he added, "you see I can't stand the riding."

Men, I know what I'm talking about. The modern average minister is not looking for a country charge. He has little love for the country people. He hasn't patience with their speech, their manners, their conservatism. He doesn't like to put a halter on the sweaty horse. He doesn't like to soil his linen. He doesn't understand the weariness of the farmer or the farmer's wife. He doesn't feel the sting of sweat in the corn field, or in the harvest. He doesn't know how it feels to get up at daybreak and do a whole lot of work before breakfast, to do a big day's work in the field and come home and milk a lot of cows, and do the barn chores when the sunset glows are dying out in the west. If the farmer seems a bit cross the preacher doesn't understand the weary day of work which has been done. He is not in sympathetic touch with actual conditions.

A preacher in a country town said to me last summer when I took an extra point eight miles out from town and preached there Sunday evenings when it was not my turn to take the union service in town, and on Wednesday evenings when I did have to preach Sunday evening in town—this preacher said, "Do you know what I'd tell those folks out there?" I asked him what he'd tell 'em. "I'd tell them," he said, "you fellows, every last one of you have better horses than I can hire, and you're just as able to come eight miles to town as I am to come eight miles in the country. If you want to hear me, come to town."



## VISION OF THE RURAL IS NEEDED.

Let us hope that all the articles, speeches, books, sociology conferences, etc., will combine to produce a vision of the field, the need, the opportunity, the honor, that properly connect themselves with this work. Then, perhaps, the unrighteous disdain of country work will pass from the preachers who hold aloof now from rural work. To put the matter positively, the preacher needs to carry in his whole personality a spirit of hearty harmony with the things pertaining to country life. He should know country life and country people and be swallowed up with fascination for the work assigned to him. It should be easy for his people to see that their pastor is their staunch friend and ally. They will never be able to see that their pastor considers himself sacrificing something to minister to them. A pastor who goes to a country station with that healthy, wholesome spirit will be the most acceptable message that could possibly go to a country people.

A balky, disgruntled fellow, who talks about preaching to the "rubes," "enlightening the natives," etc., etc., makes one sick at the stomach. When I see and hear a man of that type, I am able to comment on that message of scripture which reads: "I will spew thee out of my mouth." Unto the Lord what an abomination such clergies must be!

What kind of a message must the minister bring? What shall be the substance of it?

When Socrates was asked, "What is your profession?" he replied: "I am a midwife of souls." That stands today as an excellent definition of a preacher. Through his services souls are born to a higher and bigger life. There are many theologically saved people who need to be born many more times into larger life in their communities. To see to it that these continuous births are happily brought about is the business of the minister. A man needs to be born into a filial relationship with God. It may need another operation to bring him into a proper relation to his own home. Still another birth may be necessary to bring him into the vision of his social obligation. Long after he is able to walk in prayer and kindness, his vision of school needs, improved housing, better roads, better government, etc., may open up to him. In all of these new births, the minister may possibly act a doctor's part.

## WHAT THE MINISTER MUST DO.

To do all this a minister must act a Christ's part in the world. If you please he must be incarnated in a real sense. I will not use that phrase because you may have some theological understanding of it that may give you some different understanding than the one we are anxious to convey. So, I'll use another and to me a very expressive phrase, and say that as God identified himself, perfectly, with humanity, so the preacher must identify himself with his people in the country. Know the cold and heat, the rain and snow and sunshine, the dust and the mud—and all the unpleasant as well as the agreeable sensations incident to the farm life. This doctrine of identification has been of much help to me. It is the key to the understanding of Christ's vision; and it is the key to the success of Christ's ministers whether in city, in town, in country, at home, or abroad. Even as God identified himself in Christ, with all sorts and conditions of people, and became the Son of Man and all kinds of men—entering into the consciousness of Saxon and Slav, Mongolian and Ethiopian. Knowing exactly the temptations, weaknesses, strength and possibilities



of all races and individuals, even as God became one with the race in the person of Christ so we must become one with the people we serve. We are to sympathize with—that is, suffer with, the people. We are to identify ourselves with the people.

Don't you know that's a great thought? Think of God coming into perfect relationship with his people! He had sent messages through prophets. One may say he had written letters to his children. But no one knew just how the Father looked. He had never sent his photograph. We didn't know what his voice sounded like. When we thought of his voice, we associated thunder with the thought. We thought of him as a great Boss, but no one ever thought of him taking his place in the gang. You never thought of God pitching hay, or working in the mow. You never thought of God being in trouble—or sick, or hungry. But here comes Jesus. He works in a shop. He makes chairs, and neck yokes for the oxen. He works in the field. He carries water. He helps with the chores. He sweats—think of God sweating! He gets wearied. He eats and drinks, and sleeps. He is subject to temptations. He feels grief. He even cries. He goes one day with Mary and they put away the body of Joseph and cry as those who have lost a dear relative. All this having been done, we know now what God is like. We know that he suffers with humanity. He feels the pangs of a Chinese or Indian famine. The cry of the city is God's cry. The call of the country is God's call. So completely has God identified himself with the race that he says: "If you give a cup of water, a piece of bread—to one who needs it, you give to ME. If you visit one who is sick or in prison, you visit ME." Let that wonderful revelation sink in deeper—deeper. If a minister is to go revealing God to the people he ought to know Christ—for Christ is God in the flesh. To know Christ, to love him, to grow like him, are prerequisite stages in a minister's preparation. Then he can go into the country and people will see Christ, and hear Christ, and grow like Christ.

#### THE PREACHER'S REAL MESSAGE.

You see there is another side to this doctrine. It is a side of the message which should have equal emphasis. It is a rather beautiful thing to contemplate God's perfect identification with the race. That melts us. To think that God thinks so much of us! And to think that he has a desire that we should be called children of his! Under the influence of that thought men have said: "We will belong to the church. We can do no less." But we can see that if God has so perfectly identified himself with us it is that we may also identify ourselves with him. That is what Jesus said. "Even as he becomes one with them, so they may become one with three." Paul said: "I am even nailed to the cross every day." Jesus went the length of compassion. He suffered with humanity—even more than he suffered for humanity—and died to live out the principle. Because he heard humanity's cry, we should hear humanity's cry too. In turn we should feel as God feels toward the race. Men, I wonder have we felt this side of the great subject? Christ came and told us God was at one with us. I wonder can we report that we are at one with him? This is the meaning of the word Atonement—At-one-ment.

That is the preacher's message to the people. He must identify himself with them. He must reveal God's attitude toward them. He must represent God so completely that folks will love God, and just as the preacher has identified himself with Christ, so



people will do. They will want to tell their neighbors. They will want to feed God in China. They will want to take the work to India.

This message tends to do a lot of things. It will clean up the farms. It will raise not only the best children but the best stock. It will build good roads and schools, and improve the land. It will send the young people to the universities and bring them back to the farms. It will foster good games and will play them on Saturday afternoon. This message will help us to think so much of God, and the bible, and church, that the fourth commandment will be easily kept. The preacher who brings this message will be in love with the woods and fields, and birds and beasts. He will not only take a college and seminary course, he will try to know a lot about practical farming. He will bring in lecturers, hold conferences, advocate improvements, and do all he can to develop every body and every thing in country life. The big, healthy christian life is so attractive, so beautiful, so engaging, so busy, and the present conditions of rural life offer so strenuous an opportunity, that here is a challenge to the young man of today which cries out loudly to the best equipped we have.

Let me sum up by saying that the church is inefficiently handling the modern rural conditions. The ministry is not appreciating the call to rural work.

What the changing country needs is a new attitude on the part of church and on the part of the ministry.

We believe that the open country needs more country stations with college and seminary trained men who attend as often as possible some conference of methods.

Then we believe that the man who is sent by a progressive denomination to a country place and goes with a healthy sympathy for the country and people will carry an acceptable message. If he represents God as Christ reveals God, people will accept the man, and the Christ, and God. The results of such a work will lead to conditions of heart and brain, that the ideas of modern agricultural schools will be more readily applied. All of this will lead to a realization of religious and social ideals which now seem to be merely dreams.

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## DEVELOPING THE POWER OF THE RURAL CHURCH

By REV. P. ADELSTINE JOHNSON.

Secretary Congregational Home Mission Board for Iowa.

**T**HE progress of civilization has had a tendency to rivet attention upon the city. This is not to be wondered at, for the growth of the city has been phenomenal and its attractive power fairly magnetic. It has drawn into its complex life all sorts of people, and with their coming tremendous problems have been created. Industrial and commercial centers throb with life and any manifestation of life is fascinating. The dweller of the modern city is in the midst of social, industrial and political activity. He is drawn to the city by reason of the superior advantages in the way of social betterment, improved sanitation, more adequate school privileges, etc., all of which make an appeal to the spirit of enterprise, which is almost irresistible. If at the same time the dweller of the city has some fondness for country life, rapid transit facilities enable him to take up his residence in the



ever-widening suburb, thus realizing for him in some measure the advantages of city and country life.

This rather over emphasis of the importance of the city has led to the neglect of the consideration of rural betterment, and the conditions amid which the tiller of the soil lives and moves and has his being. But we are now living in a day when the tide of interest is turned toward the country, and the institutions which are her peculiar possession. We are recognizing more fully the inter-relation between the urban and rural population. We are waking up to the fact that rural communities have furnished the city, not only with its physical and ethical health, but also with its leadership in all lines of civic and national activity. If it were not for the constant influx of blood from the country, our cities would soon lapse into moral decay. The country has been the reservoir from which the city has drawn its best citizenship, and if the source of supply is neglected, sooner or later the raw material out of which urban society is made will have seriously deteriorated; and when country communities deteriorate the worm is at the tree of our national life. "This is the goal of American civilization," says the writer, "the maintenance upon our land, of a class of people who fairly represent our national standards of government, of intelligence and of virtue."

#### THE SAD NEGLECT OF THE COUNTRY CHURCH.

As there has been a neglect of interest in country life in general, so there has been a neglect of interest in the country church. By the country church I mean not merely the church which stands out in the open country, but the church whether in country or small village where rural conditions prevail, and where the supporting constituency get their living from the soil. As many a city has drawn its life from the country, without giving anything in return for this contribution, so many a city church, has drawn the very bone and sinew of its membership from the outlying rural churches, without reciprocating in any way. The city church has repeatedly renewed its life from individuals and families who have received religious impressions from some obscure country parish. Too often has the large city church absorbed this strength as a matter of course, forgetful of the fact that if this drain is to continue, the source of supply will soon be exhausted.

The neglect of the country church is its sorrow. Its crown and glory is the measure of its sacrifice. The rural church has seen its children scattered, and itself left high and dry, the mute witness of its former strength. In many instances the sacrifice has gone to the point of visible extinction. But the sacrifice has not been in vain, though often premature. If the country church has lost its life, it has been to find it again in the sisterhood of all the churches. The present aroused interest in the country church has not been inspired by economic necessity, but by a deep affection for this institution, by a genuine belief in its spiritual possibilities, and by the conviction that it must be restored to its former place of prestige and power as the potent agency for the redemption of our beloved land.

The evidence for an awakened interest in the rural church is abundant. The Rural Life Commission called particular attention to the place and importance of the rural church, saying that in the last analysis the country life problem is a moral problem, and that "from a pure sociological point of view the church is fundamentally a necessary institution in country life." The Presbyterian Board of Home Missions has taken up this work in earnest,



employing a special secretary, and holding series of meetings, or conferences, on the Rural Church Problem. The field studies of the country work department of the Y. M. C. A. have had a stimulating effect. The investigation of the "overlooking and overlapping" in Colorado, made by the Federal Council of the churches of Christ in America, and more recently, the Neglected Field Survey, carried on by an Interdenominational Committee of the Home Mission Boards, have made very valuable contributions to the study of the rural church. But as yet all these lines of effort are only pioneers in the immensely important work which we have in hand, and which needs to be vigorously prosecuted. As yet we have no accurate, scientific information regarding the rural situation from the viewpoint of the church. Individual communities here and there have been surveyed, and important data has been and is being collected. But the whole subject is, as yet, more or less hazy, for the lack of thorough going and comprehensive investigation. As yet some very crude conceptions prevail regarding rural conditions. It is not uncommon, even now, for intelligent people to idealize country life, and to picture the country as a land of paradise on the one hand, or to go to the other extreme, and to picture it as a land decadent. On the one hand the farmer is lauded as a man of independent thought, of sturdy puritan character, and of sterling religious conviction. And on the other hand, he is portrayed as a moss back, unprogressive, ignorant, the plaything of unscrupulous politicians. These extreme views are, of course, erroneous. Country life is not ideal. There are country slums as well as city slums. In the country there is bigotry, and narrowness and vulgarity, and coarseness of thought, and social impurity, and, I fear, dishonesty in business. But the country, by no means, has a monopoly on these things, and taking it all in all, the farmer nature is a pretty fair specimen of human nature.

It is impossible to take the rural church out of its agricultural environment and study it by itself, to ascertain what has befallen it in these latter days, for the rural church is the sensitive register of the social, economical and spiritual conditions of the community where it was planted. It does not always follow that because a community is economically prosperous therefore the church of that community is prosperous. It ought to be so, and usually is so, under normal conditions. If the prosperity of the community leads to absentee landlordism, and the setting up of a tenant system; if the principal interest in the land is to get the largest possible income from it, without returning anything to it in the way of beautification, or for the improvement of the moral and social surroundings, the church is the first to register this adverse social condition, and though wealth accumulates, the church starves in the land of plenty.

#### THE CHANGES IN THE MIDDLE WEST.

Men who have given considerable thought to the study of rural America, have divided the United States into four great districts, each having its own particular characteristics and problems, the New England region, the south, the middle west, and the far west. I only stay to speak a brief word respecting the middle west, this great Mississippi valley, sometimes called the great food producing tract, or the great corn belt.

Settlement in this section began in the early part of the nineteenth century. From 1835 to 1890 a great host of people settled in this rich territory. The most progressive families built com-



fortable homes, and equally comfortable barns. Solid virtues were developed. Virile and strong political opinions were held, and deep religious convictions possessed the hearts of men. All over this great interior churches sprang up, not so much through pioneer missionary endeavor, as by common desire on the part of the people. Religiously inclined people colonized in neighborhoods. The best social life centered about the church and Sunday school. During this period there was some movement from the country to the city, but it was largely the outflow of superfluous members of rural families into professional and business life.

But since 1890 great social changes have taken place. Older communities have seen the pioneer settler root himself up, stalk and branch, to plant himself elsewhere. For twenty years with almost increasing volume, the rural exodus has been going on, not merely of individuals, but of whole families. The Country Life commission received replies from one hundred twenty thousand rural folk to questions covering the essential heads of inquiry. The commissioners say in their report, "We have found by testimony, not only of farmers themselves, but all persons in touch with farm life, more or less serious unrest in every part of the United States, even in the most prosperous regions." Farms have been let to tenants on a three or five years lease, while the land-owner has retired to the city, where he is known as the "tired farmer" or the "stationary citizen." In the best regions the older people move to town because it is socially more attractive, and they see the prospect of living in comparative ease and comfort on the rental of their land.

This, very largely explains the evil day upon which the rural church has fallen. This fluidity of population tends to sterilize the open country and to lower its social status. The tenant who is here today and there tomorrow, does not help to build up rural society, and he, almost of necessity, takes but little interest in the rural church or the rural school. Rural society, says one writer, "is fast reverting to a type which was prevalent fifty years ago. But there is one great difference between then and now. Then rural society was passing through a marked social advancement which was common throughout the country. Now there are distinct indications of social degeneration, which is the inevitable result of a new landlord and tenant system."

#### THE DIFFICULTIES OF THE SITUATION.

We see, then, the difficulties of the situation. First, the country church is in the midst of a fluctuating population. In many instances the prosperous farmer who has become economically independent, removes to the city, and withdraws his moral and financial support from the little church. The lure of the adjacent industrial center throws its magic spell over the young people, and they are often drawn away during the tender years of their life. The church which once ministered to the whole community sees its strong families depart one by one, with no one to take their places.

Then too, it must be confessed that sectarian rivalry and over-churched conditions are working sadly against the country church. The early settlers were extreme individualists, and this is partly responsible for the overchurching of certain communities. This has often destroyed community harmony, has been a waste of men and money, and has bred contempt for the church on the part of non-Christians. When this condition prevails the rural church has



no distinct parish, and no *one* church can make the proper impression upon the community life.

Again it must be admitted that the rural church has cherished rather low ideals of its own importance. It has not always conceived of its function in terms of the fundamental needs of the people. It has not regarded itself as the "saving salt" in every community. Lax business methods have prevailed. In the face of ever changing conditions, the rural church has been very slow to adjust itself to the new age.

Then, too, there has been inadequate leadership. Too often the Missionary Society has been unable for lack of funds, to lay hold upon suitable men for the country church. We have sent to these fields inexperienced men, or because we could not get a strong red-blooded minister we have sent into the country church the man who is worn out and therefore incapacitated for large activity.

#### STEPS THAT MUST BE TAKEN TO DEVELOP RURAL CHURCH.

Certain steps have already been taken in developing the power of the rural church. But as yet no downright serious attempt has been made on an interdenominational co-operative basis to remove the arch enemy of the country church—sectarian rivalry. The country church must have a constituency. At best it is small in its membership as compared with the city church. It must have the leading families in the community, if it is to wield the proper weight of moral influence. But these families cannot be had, if the community is dissected by sectarian strife. The pathos of the situation is that sectarianism and overchurching runs wild in certain communities while other remote districts are under-churched.

The first step, therefore, in developing the power of the rural church, is to remove this paralyzing handicap. In other words, the next step should be a long step in the direction already taken, and that step should so firmly plant its foot upon overchurched communities, as to stamp out the unholy brood of sectarian strife; the correlated step should go into every rural community not within the reach of a church, and see to it that a church is provided for the community. This ideal will not be reached in a day, but we can make a beginning. It must come about by some sort of christian co-operation between the denominations interested. If leading nations can enter into an agreement to put down war, why cannot the leading denominations put down sectarian strife? We need a thorough going, scientific, systematic, survey of rural communities from the standpoint of christian service, not denominational aggrandizement. We must try to secure for the rural church first of all a field where it can operate unhampered by religious rivalry. We must have the wisdom, the courage, and the conscience to withdraw from the overchurched field in favor of the church which is doing the work, and meeting the religious needs of the people. If a clear field is secured for the country church, we have established the prime need for its existence. The seed must have soil. The seed of the Word of Life must be given a field where it can root itself and reach out into the interests and activities of the community. Given that opportunity for the exercise of its ministry the rural church will be in a fair way to come to a place of power drawing to itself a ministry of strength and exerting an influence that shall be for the healing of our national life.

The Inter-Church Federation of Iowa, recently organized, should become a helpful agency in furthering christian co-operation. Seven of the leading denominations in the state are pledged to this cause.



It will be the aim of the Federation to make a survey of the state, or of certain counties, with a view to ascertaining the religious needs of as many communities as possible. An attempt will be made to redistribute our christian forces with the idea of caring for all neglected fields, and at the same time seeking to avoid any unnecessary duplication of work in any part of the state.

#### PRACTICAL FEDERATION IN TWO IOWA TOWNS.

In two Iowa towns the Congregationalists and Methodists have federated upon the simple and fundamental basis of christian co-operation. The organizations thus federated maintain their denominational identity. They contribute to their respective denominational missionary boards. But on all matters of local religious interest the federated church seeks to become a community institution.

The country church needs a new vision of its place and importance in the world's conquest. We never tire of calling the roll of the famous country born. If it is true that five-sixths of the preachers, and six-sevenths of the college professors have come from the country, received their first religious impressions from the country church, then the country church deserves recognition. Such a fruitful vine should be cherished. Its resources are not exhausted. What it has done it can do. But the church needs a rebaptism of the spirit of service—"where there is no vision the people perish."

In my work with rural fields it has been found helpful to hold what has been called a mid-week Sabbath. As the name implies, this is a great mid-week occasion. The object is to bring together the people of the entire community. A regular church service is held in the morning similar to a Sabbath morning service. The noon hour is devoted to a picnic and social gathering. The afternoon program has been varied with the discussion of such topics as "A rural Sunday school," "The community church in action," "How can this church better reach the community," "The farmer and his task." Where these services have been held, the people have borne strong testimony to their helpfulness. They have created a new sense of the importance of the country church.

The country church needs a vastly bigger program. The church should be the living, sympathetic, and stimulating center for all legitimate interests of the whole country community. It must be the inspirer and leader of country betterment. The Gospel must be preached, and right ethical principles inculcated. But in addition to the message, the church must lead out in lines of intellectual, social and moral activity. The great word for the country church is "Adaptation." Most rural churches are using methods in vogue fifty years ago, and utterly unsuited to modern rural conditions. "The business of the rural church is to interpret the teachings of Jesus in terms of the people's daily life and daily toil." The whole circle of the farmers' activity should be of concern to the church. "The marginal man" should be a shaping factor in the policy of the church and come within the range of this program. The churches at Whiting and Hartwick, Iowa, are an illustration of what may be done when a church maps out a great program.

All this calls for a new type of a country minister. The type of a minister I have in mind is a man who loves the country and country folks, a man who is willing to root his life into the life of the country, who has faith enough to believe that if he gives himself wholly to his ministry his people will see to it that he is well supported. For the task in hand he needs no unusual



equipment. But he must be a man with an open mind, a sympathetic heart, and a whole lot of common sense. With that equipment he will see what needs to be done, apply his knowledge to the work in hand and adapt himself readily to changing conditions.

## ARTICLES OF AGREEMENT

### OF THE CO-OPERATIVE CHURCHES OF OTO, IOWA.

The following articles were submitted to the conference by Rev. P. Adelstine Johnson as indicative of what is being done in some communities toward federation.

Article I.—It is hereby agreed by the Methodist Episcopal Church of Oto and the Congregational Church of Oto that the said churches will co-operate during the year 1911-1912, according to the following articles of agreement:

Article II.—The organization shall be known as the Co-operative Church Association of Oto, Iowa.

Article III.—A member of either church in this association shall be a member of the Association by virtue of his rights as a member of that church.

Article IV.—Each congregation shall choose a committee of three persons, and these committees shall constitute a Board of Control. The members of these committees shall organize themselves into a board of control by electing a chairman, a secretary, and a treasurer from their number. The duties of these officers shall be such as usually appertain to such officers.

Article V.—Each committee shall represent its congregation in the Board of Control, and the government of the Association shall be vested in the Board of Control. It shall meet at the call of the chairman, or of any three members of the Board.

Article VI.—The Board of Control shall have jurisdiction over all questions concerning the co-operative congregation, except those of a strictly denominational character. Its acts shall be binding upon the Association.

Article VII.—The Sunday School and the young people's societies shall be under the control of the Board.

Article VIII.—Any person desiring to unite with a church shall be entitled to choose freely, and to be taken into the church of his choice, subject only to the regulations of that church.

Article IX.—The young people's societies shall co-operate under the same regulations as the churches.

Article X.—Nothing in these articles shall be construed so that it will in any way interfere with the denominational rights of either church in this association.

Article XI.—Nothing in these articles shall be construed in any way so that it will hinder either church in this Association in collecting its own benevolences. It shall be the duty of the pastor to assist either church in this Association in collecting any such benevolences.

Article XII.—The pastor's salary shall be collected under the direction of the Board of Control.

Article XIII.—Sacrament shall be administered as the Board of Control shall determine.

Article XIV.—These articles shall become binding upon the congregations only after they have been voted upon by the assembled congregation, adopted by a two-thirds majority vote of those present, and signed by the committee from each church. Notice







## VALUABLE BOOKS FOR THE RURAL MINISTER

**P**ROF. O. H. Cessna of the department of psychology in Iowa State College gave addresses on "The Minister and the Boy Problem—Adolescence," and "The Minister and Psychic Fads."

Instead of occupying the space allotted to him in the bulletin with an outline of the addresses, he has thought that it might be more serviceable to those who are interested if he would give the bibliography suggested by him at the lectures.

## SOME USEFUL BOOKS ON ADOLESCENCE.

Those marked with a (\*) should be in every minister's library.

\*Alexander, "Boy Training." Association Press.

\*Forbush, "The Boy Problem." Pilgrim Press.

\*Kirkpatrick, "The Individual in the Making." Houghton. Mifflin Co.

\*Fish, "Boy and Girl Adolescent Period."

\*Puffer, "The Boy and His Gang."

\*McKeever, "The Boy and The Girl on the Farm."

\*Johnson, "Education by Plays and Games."

\*Bancroft, "Games for Playground, Home, School and Gymnasium." The Macmillan Co.

Gulick, "Hygiene Series." Ginn & Co.

Swift, "The Youth and the Race." Scribner.

Swift, "The Mind in the Making." Scribner.

Hall, "Youth." Appleton.

Hall, "Aspects of Child Life and Education."

George, "The Junior Republic." Appleton.

King, "Rational Fight for Character." Association Press.

Coe, "Spiritual Life." Eaton and Mains.

Starbuck, "The Psychology of Religion." Scribner.

Horne, "The Psychological Principles of Education." Macmillan.

"The Boy Scouts of America."

## BOOKS ON PSYCHIC FADS.

These books will be helpful in dealing with "Psychic Fads." These marked with a (\*) should be in every minister's library.

\*Sadler, "Physiology of Faith and Fear." McClurg.

\*Brown, "Faith and Health."

\*Hoffman, "Psychology and Common Life." Putman.

\*King, "Rational Living." Macmillan.

\*Coe, "The Spiritual Life." Eaton and Main's.

Bruce, "Scientific Mental Healing." Little, Brown & Co.

Munsterburg, "Psychotherapy." Moffat, Yard and Co.

Worcester, "Religion and Medicine." Moffat, Yard and Co.

Jastrow, "Fact and Fable in Psychology." Houghton, Mifflin Co.

Dubois, "The Psychic Treatment of Nervous Disorders." Funk and Wagnall.

Forel, "Nervous and Mental Hygiene."

Betts, "The Mind and its Education." Appleton.

## BOOKS ON PSYCHOLOGY.

The following books are suggested for those who are interested in the general subject of psychology, and ought all to be in the minister's library.

Scotfield, "The Force of Mind."

Thorndike, "Human Nature Club." Longmans.

Angell, "Chapters from Modern Psychology." Longmans.







1916

AGRICULTURAL EXTENSION DEPARTMENT  
R. E. BLISS, Director  
AMES, IOWA

OFFICIAL PUBLICATION OF  
IOWA STATE COLLEGE OF AGRICULTURE  
AND MECHANIC ARTS

Vol XII

MARCH 10, 1914

No. 30

THE FARM POULTRY BREED-  
ING FLOCK



AGRICULTURAL EXTENSION  
DEPARTMENT

EXTENSION BULLETIN NO. 19  
AMES, IOWA

Published Tri-Monthly by the Iowa State College of Agriculture and Mechanic Arts. Entered as Second-class Matter, October 26, 1905, at the Post Office at Ames Iowa, under the Act of Congress of July 16, 1904.



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# THE FARM POULTRY BREEDING FLOCK

## Its Selection, Care and Management

BY H. A. BITTENBENDER,

Extension Associate Professor of Poultry.

The opportunity to make money in raising poultry is not past, but here. In 1913 the sale of Iowa's market fowl and eggs reached the sum of \$38,000,000, yet on most farms little attention is given to extensive poultry raising. The industry deserves as much time, care and attention as any farm enterprise, because for the amount of money invested and the equipment necessary, it returns more ready money evenly distributed through the year than any line on the farm.

There are a few essentials necessary for the largest profit and greatest success.

The question uppermost in the minds of most poultry raisers is, "Which is the best breed of poultry?" Experience and experimentation have proved that there is no one best breed. However, there is one kind of chicken that is far superior and that is the purebred of strong vitality and high producing strain. The crossbred and even the mongrel may give better results than the purebred if it is decidedly superior in vigor and vitality, or if given decidedly better care, but it is well established that it does not pay to raise mongrel or scrub chickens.

### THE BREED

The breeds that generally give the best results on the farm are the general purpose breeds. The Plymouth Rocks, Wyandottes, Rhode Island Reds, and Orpingtons belong to this class. Are these better than others? The Leghorn, Minorca, Ancona and Andalusian are egg breeds, but the whole profit from the flock does not come from the sale of eggs alone, but also from market poultry. If production is reckoned for the year the egg breeds will probably lay a few more eggs than the heavier fowl or the so-called dual purpose class. It is also true, however, that egg breeds do not lay as consistently throughout the winter where the climate is cold and variable, but their spring and summer laying gives them their larger egg record. The price received for these eggs is not quite as high price as for winter eggs, and hence as good a profit may generally be secured from the eggs of the heavier breeds, such as the Rocks, Reds, Wyandottes and Orpingtons. Besides this, more money can be secured from the sale of stock of the heavier birds each year. If the heavier breeds are raised, the two advantages will give a larger profit than the egg breeds.

### ADVANTAGES OF THE BREEDS

The egg breeds have many advantages in their favor. As foragers and gleaners they are far ahead of the heavy breeds, ranging far out into the fields from early in the morning until late at night. The small breeds are quicker maturing and do not have to be hatched as early to insure mature pullets for the winter laying flocks. They mature in four and one-half to five and one-half months. Most flocks of Leghorns and Minorcas run slightly higher in fertility than general purpose breeds. The smaller size, greater activity, and nervous dis-



position of the Leghorn makes it a very desirable farm fowl, for chicken-eating sows or barrows have some difficulty in snapping up many Leghorns. These breeds are able to make use of more corn without becoming over fat, lazy, unproductive and unprofitable. Warm weather does not affect the Leghorn, but cold and changeable weather reduces the egg production materially.

To secure the greatest possible profit from the flock, market demands necessarily must be kept in mind. If egg breeds are selected the greatest income will come from the sale of eggs. The surplus males and old stock will have to be disposed of. Some markets discriminate against the light breeds, paying a premium for heavier fowls. If one is near a satisfactory broiler market the young males from the egg breeds can be sold at an excellent profit.

Artificial incubation and brooding becomes a necessity when the flock belongs to the egg class. This system involves a good deal of time, care, experience and considerable expense, more than the average farmer is willing to give to poultry.

The hens of the general purpose breeds can be depended on to hatch and rear most of the chicks. If the stock is kept culled to pullets and yearling hens, fed in a judicious manner so that it does not become over fat, larger productions can be secured from the flocks of the heavier breed. With the general purpose breeds the cockerels can be reared to the size of 5 to 6 pounds without becoming staggy. The late hatched cockerels can be caponized and sold at good profit if a market can be secured.

Balancing the advantages and disadvantages of both the egg and general purpose breed they are about equal as to profit.

It is necessary in the poultry business to renew most of the flock each year. If 100 laying hens are kept, at least two-thirds should be pullets. This means that every year 65 pullets must be placed in the laying flock. To do this at least 300 chicks will have to be reared to maturity. If one figures a loss of 25 per cent, which is high, this will mean that about 400 chicks will have to be hatched. With this system of management there will be a large number of chickens to sell each year and in the long run will mean a much larger income. All females in the flock should be yearling hens and pullets.

### *SELECTING A BREED*

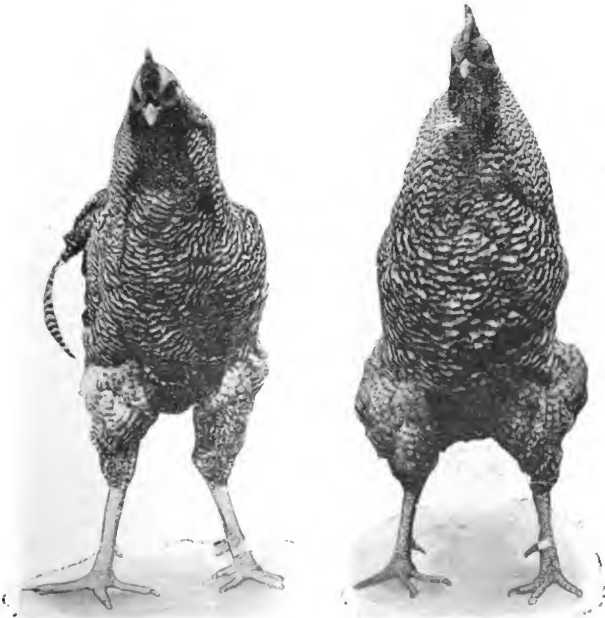
The many varieties of the different breeds give the poultryman opportunity to find a color or mixture of colors that suits his fancy, and care should be taken that the breed does suit. It is unwise to keep changing each year. When a breed has been chosen it is best to stick to it to make that particular strain the very best, in type, egg production, color and other breed characteristics. This is done by careful breeding and selection of only the very best and fittest. No poultryman should be satisfied with a cockerel from a flock of medium producers, but should get the very best he can.

The exchange of eggs with the neighbors is a bad practice unless they have the same variety and better stock. If this custom could be stopped among the farmers the production of pure bred poultry in Iowa would double in the next year. This practice gives a mongrel or cross breed of chickens that does not breed true to type. The re



sult is a product that is variable. The eggs and dressed carcass vary in the same amount and degree as the color. If there is to be a uniform product there must be uniform stock that will reproduce its like. While the color is just an external characteristic and cannot be turned into food and be eaten, it is an indicator of what is under the suit of feathers.

The ideal variety to breed is the one that has the color and shape that suits one's fancy. The stock of that particular variety should be chosen for vigor and vitality. Breed for egg production and place shape of the breed ahead of color. Never sacrifice vitality or breeding for shape and color. The stronger survive while the weaker fail to make good growth and many are lost. The same care and management applied to purebred stock of equal vigor will give a larger profit.



**Low vitality.** Note sunken eye, shallow breasts, sickle hocked appearance.

**Strong vitality.** Note width and depth of head and breast; width between knee and hock joints.



### HOW TO SELECT

Strong vitality is indicated by a head that is short, broad, deep and compact; an eye that is bright, full, clear, round and prominent; a beak short, stout, broad and well curved; comb and wattles well developed in size and fiery red in color.

The body of the bird should be well jointed to form a compact, stout, well built individual; the back long and broad, carrying its width well out towards the end, according to the characteristics of the breed; the breast, deep, broad and thickly fleshed with a long keel extending well back. The individual, especially the hen, should have large capacity so as to develop a digestive and reproductive system capable of manufacturing a large number of eggs.

The stronger bird generally stands with shanks placed squarely underneath its body and wide apart at the hock or knee joints. The toe nails in the stronger bird are worn broad and flat across the point, showing evidence of great activity. The stronger bird is the more active, generally the first one off the roost in the morning and the last to go to bed at night.

### CULLS.

The unprofitable, weak, low vitality individuals are the ones to cull out of the flock. These birds generally show some outward evidence of weaknesses, by a head that is long, flat, sunken and narrow;

a beak that is long, narrow, flat and slender; an eye that is small, dull and sunken; comb and wattles that are poorly developed or pale in color.

The body oftentimes is loosely joined together or the bird may stand with its knee or hock joints close together and its feet braced outward with a sort of sickle hocked, wobble geared appearance. The breast is often narrow, shallow and poorly fleshed, together with a body lacking in width and depth. The weaker birds are less active, as evidenced by long pointed toe nails, and may often be seen in the day time occupying the roosts or sitting around about the buildings.

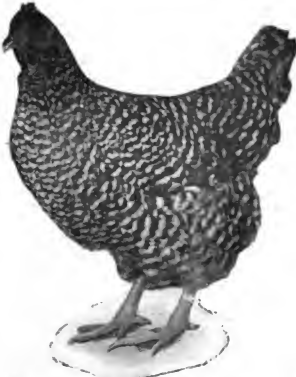


Strong vitality. Note prominent eye, stout beak compact body.



## VALUE OF SELECTION

If selection is not practiced each year and the hatching eggs taken from a selected few hens it does not take long to lower the vitality. Greater results are secured when a few hens are selected



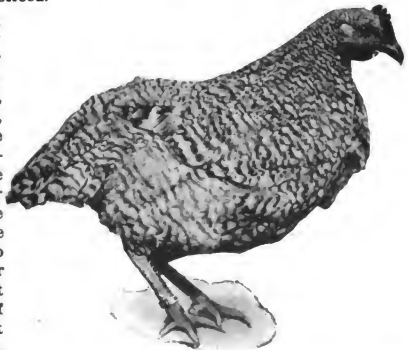
The strong vitality hen. Note the capacity.

from the entire flock and separated in such a manner that their eggs may be used for hatching purposes. It pays better to buy two or three real good males to mate with a few selected hens than to pay the same or a smaller price for a larger number of males for the entire flock.

One of the main reasons why many find it necessary to change males each year is that they fail to practice selection. New blood introduced by changing eggs with a neighbor who has a different variety may give stock of greater vigor, but this does not produce offspring that are uniform. Together with this vigor there is established a strain of chickens with a breeding that cannot produce a

uniform offspring or product. By breeding purebreds, selecting from a flock for vigor and vitality, breeding from hens mated with cockerels of exceptional vigor and vitality, far better results can be secured. With purebreds the offspring and products are uniform and like tends to produce like. It is not necessary to change males each year if selection is practiced.

Low vitality parents mean low vitality chicks, a larger number of infertile eggs, dead chicks in the shell, weak, crippled chicks, and chicks that die soon after being hatched. The chicks that are hatched from weaker parents never make the same growth under the same conditions as do chicks from stronger parents. Many times it is not due to lack of care and management that chicks are lost, but to the low vitality of the parent stock.



Low vitality. Note lack of depth, carriage and general weakness.



## HOUSING

After selecting for vitality it is necessary to give the proper care to the stock in order to maintain the vitality. Housing, feeding and management have a great deal to do in maintaining this vitality.

There are many kinds of successful farm poultry houses, but success depends on the houses being constructed according to certain principles. Successful poultry houses are economical, dry and well ventilated. The windows admit plenty of sunlight, much of it without the use of glass. Such a house is large enough to accommodate the flock, allowing about two and one-half square feet of floor space for each fowl, and affords ample protection to the flock in inclement weather. It is not necessary for a house to be expensive to be efficient; in fact, many of the most successful poultry houses are of the cheapest construction. It matters not how cheap a house is just so long as the birds are comfortably housed, free from drafts and in quarters that are sanitary and well ventilated. Old lumber about the place or a shed that is ready to be torn down may be used for material.

To get the most sunlight at all seasons the front of the house is faced to the south. Some of the windows should be glass and the remainder open with the exception of wire netting to confine the birds and light cloth or burlap curtains for use in cold and excessively stormy



Front view of A-shaped colony breeding houses.



weather. They will permit more sunlight to reach the back part of the house during the winter if placed lengthwise from top to bottom. The front in a fowl house is so built as to permit sunlight to reach all corners. It is absolutely necessary that the roof, ends, back and floor of such a house be air tight. Ventilation is secured through the open front and drafts are not incurred because there is no opening on any side except the front. Old boards can be utilized for the roof, side walls and back and covered with single-ply prepared roofing, providing a house tight on all sides, except the front, at a very low cost, and just as efficient as a more expensive structure.

The floor of a permanent house should be sanitary, durable, rat-proof and draft-proof. A floor that has given excellent satisfaction in all of the above essentials is a dirt floor constructed in the following way:

The house foundation is put 12 inches below the ground and built 8 inches above. The ground inside is levelled off and filled in four inches with coarse rock, broken brick and cinders. On top of this is placed two inches of clay which is carefully tamped. Enough road oil, No. 7, is mixed with dirt to place a top dressing of three-fourths to one inch, thus making a floor that is absolutely dry, dust proof, durable and sanitary and one also quite cheap in construction.

A cement floor gives excellent satisfaction if constructed so that moisture does not collect and come up from below. If the capillary moisture is broken with coarse material, as in the dirt constructed floors, it will be just as satisfactory, although not quite as cheap in construction and not as easily renewed as the dirt floor.

A wood floor generally affords an excellent place for rats to use as a run way. If the foundation is not tight, wind whips underneath the house and comes up through the cracks and knot holes, thus creating drafts.

## MANAGEMENT

After a breeding flock has been chosen for breeding and vitality there are many factors that tend to reduce these qualities. For this reason proper management is as essential as the selection itself. In brief the essentials of management are: Free range on a well drained soil, plenty of feed fed in the right proportion, sanitary surroundings, and freedom from insect pests and diseases.

To encourage proper care and maintain the vitality of the stock a colony house can be utilized advantageously. One of the most desirable types of colony house tried out at the Iowa Agricultural Experiment Station is the A-shaped house. From 15 to 25 hens are placed in each house and given free range. The vigor and vitality of the parent stock is maintained, fertile eggs are secured, and strong vigorous chicks that grow rapidly are produced. The colony houses are built upon skids so that they can be hauled about from place to place. When thus constructed the house is usable for many purposes. It may serve excellently as a rearing house, or as a fattening house for capons or cockerels, and it makes a good house for winter laying pullets. In other words, the portable colony house can be utilized during the entire year.





Interior view of colony house, showing roosts, dropping board, trap nests and self-feeding hopper.

A detailed plan of the A-shaped portable colony house shown in this publication can be secured by writing to the Poultry Department, Iowa State College, Ames, Iowa. This type of house is generally made 8x8 or 8x10, a convenient size to be removed easily from place to place. The A-shaped construction permits it to be drawn through an orchard or grove without catching on the limbs. A house of this kind can be built very easily and will cost less than \$40.00 for labor and material.

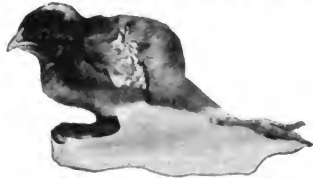
One of the most satisfactory locations for the colony house is in the orchard or grove, where the breeding flock may be given free range. No males are permitted with the general flock. Fertile eggs for hatching are secured from the breeding flock and market eggs from the general flock. These market eggs will be infertile, which is all the better from the market standpoint, for they will not heat and develop blood rings like a fertile egg.

### *SELECTING EGGS FOR HATCHING*

If the largest and strongest chicks are to be secured the eggs for hatching should be selected. There are many theories as to what kind of an egg is the best for hatching. It is a common idea that its shape determines to a certain degree the sex of the chick. For instance, it is believed a round egg will produce pullets and long pointed eggs, cockerels. Experiments have proved that the shape or size of the egg



has little or nothing to do with determining sex, but that the stronger, healthier and more vigorous chicks come from medium sized, normal shaped eggs. Eggs selected from hens are better than eggs from pullets if stock is equal in vitality. Eggs that are ill shaped, rough, dirty, stained should not be used. If eggs of good size are used every year it will tend to increase the size and uniformity of the eggs of the flock because the size of the egg is a heredity character.



Crippled condition due to low vitality of parents or improper incubation.

It is impossible for an egg has been incubated to tell whether it is fertile or infertile without breaking the shell. After it has been under the hen or in the incubator for five to seven days, it can be tested by candling. A candling outfit can be purchased from any poultry supply house or a home made one can be used with equally good results. A box large enough to hold an ordinary lamp, with a hole cut in the top for the chimney and a small hole opposite the flame about the size of a half dollar, is all that is necessary. Candling must be done in a dark room or at night. The egg is held large end up before opening in the side of the box. The infertile egg will show clear like a fresh egg while the fertile egg will show darker. The fertile egg will show, if the light is strong, a spider-like formation with the branching blood vessels. A little experience gained by breaking a few eggs into a dish after looking at them through the candle will enable one to candle quickly and efficiently.

Experiments at the Pennsylvania station show that eggs held for incubation give better results when laid flat and turned daily, and that the washing of eggs materially reduces their hatchability. The test also shows that there is little difference in eggs kept in a reasonably cool room or cellar if not held for longer than ten days.

If eggs for hatching are to be saved for a number of days large



Low vitality. Note lack of carriage, sleepiness and dumpyness.



A strong chick. Note width and depth of body.



hatches of stronger and more vigorous chicks can be secured if the eggs are held under the right conditions. Many times when poultry raisers think they are doing the most they are really doing the worst. Eggs held in a living room or kitchen where the temperature is around 70° evaporate very fast and the vitality of the embryo is materially reduced. A cellar, provided it is not musty or mouldy, makes a very satisfactory place to hold eggs that are to be used for hatching purposes. The best temperature seems to be between 45° and 65° with an average of about 50°. The shell is porous so that moisture within easily evaporates. A cover over the eggs prevents excessive evaporation. It is a good idea to turn the eggs daily.

The poultry department at New York College of Agriculture reports the following work on holding eggs for hatching:

| Length of time held. | No. Eggs. | Room Temperature. | Per cent of Fertility. | Per cent of chicks hatched. |
|----------------------|-----------|-------------------|------------------------|-----------------------------|
| 1 day -----          | 50        | 65                | 86                     | 74                          |
| 7 days -----         | 50        | 65                | 89                     | 36                          |
| 14 days -----        | 50        | 65                | 78                     | 32                          |
| 21 days -----        | 50        | 65                | 52                     | 12                          |
| 28 days -----        | 50        | 65                | 19                     | 10                          |
| 35 days -----        | 50        | 65                | 8                      | 6                           |

#### Eggs held under different temperatures and conditions:

| Place.                    | Range of Temperature. | Per cent of Fertility. | Per cent of chicks hatched. |
|---------------------------|-----------------------|------------------------|-----------------------------|
| Ordinary living room----- | 53-70° Av. 65         | 88                     | 52                          |
| Cold storage -----        | 45-54 Av. 50          | 90                     | 76                          |
| Furnace room -----        | Av. 80                | 24                     | 0                           |

Optimum temperature about 50 degrees.

In these experiments the eggs were turned daily. The first experiment was run at a temperature 5 degrees colder than the ordinary living room.

### *BREEDING FROM PULLETS*

Perhaps no one factor tends more to lower the vitality of chicks and cause poor hatches than the continued practice of breeding from pullets mated with cockerels. It gives undersized, weak, slow-growing stock. Pullets lay more than hens through the winter and are in poorer physical condition when spring hatches start. The eggs are smaller in size, more are infertile, and more give dead chicks in the shells, and more weak, crippled, spraddled legged chicks are produced to die soon after hatching. Where chicks hatched from pullet eggs are smaller they do not overcome this defect, but make slower growth through the season.



### BRED FROM PULLETS

Hens should be used in the breeding flock where it is at all possible. The West Virginia Experiment Station has reported the most complete work along this line in its bulletin, No. 124, as follows:

|   | Hens.      | Pullets.   |
|---|------------|------------|
| Number of eggs incubated.....   | 1004       | 871        |
| Average weight of eggs per hundred.....                               | 12.96 lbs. | 11.19 lbs. |
| Total number chicks.....  | 840        | 601        |
| Per cent hatched of eggs incubated.....                               | 76.7       | 67.8       |
| Average weight of chicks per hundred when removed from incubator..... | 8.28       | 7.12       |
| Average weight of chicks at second weighing per hundred.....          | 29.36      | 23.07      |
| Total number recorded deaths.....                                     | 42         | 86         |
| Per cent of chicks which died.....                                    | 5          | 14.6       |

### NEW STOCK

With chickens it is not a difficult matter to build up a pure bred flock of the very best. One, two or three years at the most is all the time that is required to establish a flock of pure bred. There are many good ways of establishing a high producing flock. One of the most satisfactory ways seems to be that of starting with a setting or two of eggs or by purchasing the baby chicks from the right kind of flock. If care is used in getting the stock, a small breeding flock of pullets will be on hand for the next year. In ordering eggs or chicks it is usually better not to buy from some dealer far away, even though he has an alluring advertisement in some farm or poultry journal. It is better to secure eggs and chicks from a flock of which one is certain or which is recommended by good authority than to take chances with flocks of which nothing is known.

### *FEEDING*

In feeding the breeding flock it is necessary to give the breeders everything that is necessary for manufacturing eggs. The feeds must be fed in such a manner that the hen is kept in the highest possible physical condition. The following system of feeding has been worked out carefully and is now in use at the Iowa State College poultry farm and is giving excellent satisfaction:



Immature pullets although strong and vigorous are inferior to hens as breeders.



| Grain Mixture.                    | Mash Mixture.                                     |
|-----------------------------------|---|
| Corn, coarsely cracked.....2 lbs. | Finely ground corn .....3 lbs.                    |
| Wheat .....1 lb.                  | Wheat middlings, or high grade shorts .....3 lbs. |
| Oats (heavy) .....1 lb.           | Wheat bran .....1 lb.                             |
|                                   | Beef scrap .....1 lb.                             |
|                                   | Alfalfa leaves .....1 lb.                         |
|                                   | Ground oats .....1 lb.                            |
|                                   | Salt .....1-10 lb.                                |

As much depends upon the manner and method of feeding as upon the feed itself. If the flock is given free range to the barn yard where plenty of corn and other grain may be picked up, the grain mixture can be omitted. However, it will always pay to keep the mash mixture before the fowls in a self-feeding hopper. Feeding the mash dry with an occasional wet feeding is a good practice. Buttermilk or skimmed milk is used to mix with the mash mixture in sufficient proportion to make a moist, crumbly mass, not wet and sloppy. If the grain mixture is feed it in a deep litter of straw.

It is highly essential that the feeding of the breeding flock include variety of grains, free access to ground food, a large amount of green food, an ample supply of some form of animal material, plenty of grit for grinding material, oyster shell or ground limestone to furnish the shell of the egg, and an easy and ready supply of clean, fresh water.



Dry mash feed hopper, cover raised showing three compartments and open ready for feeding.





Grit, shell and charcoal hopper.

The green food can be supplied in the form of alfalfa leaves, either steamed or dry; sprouted oats, cabbages, roots, potato parings and the like. The animal food in the form of beef scrap, tankage, fresh meat, refuse from butchering, green cut bone, worms, insects, buttermilk, or skimmed milk, should be given to the breeding flock in sufficient quantities to supply the demand.

### *DISEASES AND INSECT PESTS*

To keep the flock free from disease it is necessary to use a little prevention in addition to careful management. Enough permanganate of potash should be placed in the drinking water to make it a deep wine color, or enough to color the finger a light brown when placed in the liquid. If the house is thoroughly cleaned and whitewashed in the spring before the breeding flock is placed in it, it will aid materially in keeping infection down.

A whitewash solution that has given satisfaction is made up in the following manner: One peck of water slacked lime, two pounds common salt, one gallon of stock dip. To this mixture is added 40 gallons of water and the preparation is applied under pressure with a spray pump. However, if a spray pump is not available, enough water can be mixed with the stock solution to form a liquid that can be applied with a broom or an ordinary whitewash brush.

To keep the flock in a good physical condition, a little epsom salts can be mixed in with the dry mash. For a flock of 18 to 20 birds half a pound of epsom salts can be mixed with a gallon of mash and this moistened with skimmed milk or buttermilk and fed occasionally. A little sulphur added with the epsom salts helps to purify the blood and keep the birds in good breeding condition.

A good dust box should be made available for the flock so that they will keep themselves free from body lice. If powdering is necessary a cheap and effective home made powder can be made from the following formula: Three parts gasoline, one part commercial cresol. To this mixture add all of the Portland cement that will thoroughly



moisten. Spread out to dry. The gasoline will evaporate, leaving a grayish white powder with a pronounced odor of carbolic acid.

It is also necessary that the house be kept free from the little red mite, which works upon the chicken at night, remaining in the house during the day time. The evidence of the mite is a whitish appearance along the roosts, nests, walls and dropping boards. Close observation may disclose the little red fellow in the cracks, crevices and hidden corners. For this pest it is necessary to use a very strong disinfectant or mite paint. In many cases it is necessary to use a paint, such as crude oil, crude carbolic acid and the like on the roosts, nests and every place in the house where a mite can possibly hide. This paint is put on with an ordinary paint brush early in the morning. A mixture of three parts of kerosene and one of crude carbolic acid or stock dip has proved very efficient. A second application should be made in five or six days after the first in order to kill the new mites from the eggs that were not killed by the first application.

### THE SITTING HEN

One of the most satisfactory incubators for the farm is the old hen. Nature is careful and economical in her way of incubating, but good results from hen hatching cannot be expected if the hen is not left unmolested. The laying house, where other fowls are apt to lay in the nest where the hen is sitting, is a poor place.

A satisfactory place can be arranged easily in a shed or separate building, where all of the hens can be set as they become broody. For the best results the nests should be uniform and comfortable. Broody hens can be moved at night with little trouble or danger of breaking them up. Give the hen two or three eggs and she will soon become settled down in her new quarters. A good sized nest is 14 inches deep and 12 inches wide. The nests may be built one above the other, allowing about 12 inches from top to bottom. If thought advisable a door may be made to confine the birds. A good dust box should be provided so that the hens may dust themselves. Fresh water and whole corn should be kept where they have access to it.

Better hatches have been secured when a piece of sod or dirt to a depth of two or three inches has been placed in the bottom of the nest and shaped to conform with the body of the hen. A little straw, chaff or fine hay is the best for nesting material on top of the dirt.

### BREAKING UP A BROODY HEN.

If an incubator is used for hatching, the broody hens must be "broken up." There are many satisfactory and some unsatisfactory methods of doing this. Care must be taken not to injure the hen. It is not a good idea to throw her off the nest time after time or duck her into the water trough. She must not be shut up in a close coop for several days without feed and water. Both of the above methods may serve their purpose in breaking up the broodiness, but it is some time before the hen will be in condition to begin laying. Putting her in a slatted bottom coop hung between a couple of trees is better. With fresh water and plenty to eat, her broodiness is soon broken and she is in good condition. A V-shaped trough can be placed in front of the coop so that a moistened mash may be fed occasionally. Plenty of grit, green food and animal food soon puts the hen into laying condition.



OFFICIAL PUBLICATION OF  
IOWA STATE COLLEGE OF AGRICULTURE  
AND MECHANIC ARTS

Vol. XII

APRIL 10, 1914

No. 33

# IDENTIFICATION OF POTATO VARIETIES



AGRICULTURAL EXTENSION  
DEPARTMENT

EXTENSION BULLETIN NO. 20  
AMES, IOWA

Published Tri-Monthly by the Iowa State College of Agriculture and Mechanic Arts. Entered as Second-class Matter, October 26, 1905, at the Post Office at Ames, Iowa, under the Act of Congress of July 16, 1904.



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# IDENTIFICATION OF POTATO VARIETIES

BY C. L. FITCH.\*

The purpose of this bulletin is to furnish the grower of potatoes in Iowa with information as to varieties and how to identify them. So many of the productive sorts have been repeatedly renamed that there is great confusion, when in reality the situation is a clear and simple one and the valuable sorts are few and readily identified.

Grocerymen and produce dealers may find this publication of use in identifying carlots purchased by them. The shipment into Iowa of the early white Irish Cobbler under the name of the late long keeping Rural has been a serious, if not intentional, fraud upon some merchants. Moreover, there is great need to have carlots or smaller shipments of seed potatoes true to name and season.

The judging of corn in the ear has become an important factor in corn production. In the short courses and in the schools and colleges, the young people of the corn belt and their elders have learned through contests and judging exercises to read from the ear of corn how it grew and what is its merit for feed or planting. To the judging of apples and other fruits, horticulturists and horticultural students give a great deal of time and the results in knowledge of fruits could be so well secured in no other way. The importance of the potato industry justifies systematic study of potato tubers in the same way, and it is hoped extension workers and teachers in high schools and colleges will find these studies of use in their class work with potatoes.

The identification of varieties of potatoes will be considered under three heads, as follows:

- I. The varieties of interest to Iowa growers and merchants.
- II. Tubers described and tuber parts named: the influence of conditions on shape and color.
- III. Varieties described and identified by the tuber form and color markings.

## *PART I. VARIETIES OF INTEREST TO IOWA GROWERS AND MERCHANTS.*

Potato varieties win their way by force of superior excellence and hold their place because of their power to produce good and saleable food in larger quantity or of better quality than other sorts. In home gardens personal preference or sentiment is quite a factor in the preservation of varieties, but it is not

\*Acknowledgments are made to the Colorado Agricultural Experiment Station for permission to use in this bulletin the results of work done by the author at that Station.



so on the general market where sheer merit and power to produce wins. In the aggregate, a considerable benefit would result if growers of potatoes would plant only standard sorts. Yields would be larger, quality as good or better, seed more easily secured, and the shipment of straight, unmixed cars would be made possible. Without being able to ship cars of one variety no community can sell potatoes in quantity with success.

The writer made thorough trial for a series of years of all varieties of commercial importance in the United States and Europe. He made also a canvass in person and by letter of the markets of the United States. The result was that only a few varieties were found to cut much figure in our food supply, or to be worthy of trial. For the United States, these varieties are at this date as follows, listed about in the order of their importance:

- |                    |                      |
|--------------------|----------------------|
| 1. Rural.          | 5. Irish Cobbler.    |
| 2. Green Mountain. | 6. Bliss Triumph.    |
| 3. Early Ohio.     | 7. Peerless (Pearl). |
| 4. Burbank.        |                      |

The Early Rose and certain other varieties are mentioned in Part III as of local importance in the United States and many other names for the above seven sorts are given. Almost all the so called novelties offered by seedmen will be found to be one or another of these standard sorts renamed, or a seedling or sport from one of them, and very rarely different from or superior to the parent sort.

#### IOWA'S OUTSTANDING VARIETIES.

The Iowa Agricultural Experiment station has found that the three outstanding varieties for Iowa planting are:

1. RURAL.
2. EARLY OHIO.
3. IRISH COBBLER.

The following are grown in Iowa to a greater or less degree or reach our markets.

4. GREEN MOUNTAIN, the second most important variety in the United States, and a second best late sort for Iowa.

5. BURBANK, still the standard of the U. S. Government for market quotations, formerly important in Iowa, and at some seasons still important in the supply of her cities.

6. PEERLESS OR PEARL, by test at Ames, ranking among the best late sorts, and often coming into her markets from Colorado or Wisconsin.

7. BLISS TRIUMPH, sometimes grown in Iowa for very early use, and extensively grown in the south for the supply of the early markets of Iowa and the northern states.



## PART II. TUBERS DESCRIBED AND TUBER PARTS NAMED. THE INFLUENCE OF CONDITIONS ON SHAPE AND COLOR.

In identifying varieties, certain facts need to be kept in mind as to how the potato tubers grow. A tuber is not a root but a stem which has been more or less enlarged with the storage of reserved food. Not all "tuber" stems do enlarge. In soil too warm or in some conditions of disease the stems may grow in length rather than in thickness and often come out of the ground, either without or after starting to tuber. Tuber shape must be considered in connection with vigor and productiveness.

On new soils, like the hazel brush lands of Iowa in the early days, or on rich sandy lands in the north, there is a tendency for all varieties to have relatively wide and flat tubers. Wideness is a sign of health and vigor, and other things being at all equal, wide flattened seed potatoes are better than those that are circular in cross section. Moreover flattened tubers are not hollow, and are associated with shallower eyes and freedom from knots or second growth. Flattened tubers are easiest to pare and are of the best shape for cooking. The largest yields are associated with this form. Flatness and relative shortness are the result of healthy growth and are signs of strength.



FIG. 1. *RURAL*: Plenty of tuber stems after only a start at tuberizing. The result of hot soil. The ideal wide *Rural* (W) in Fig. 12 represents one extreme: this is the other. The French call this trouble "Fillosete." The original tuber stem is at (S) and the abnormal stems have emerged from the ground in three places (1, 2, 3). The mother plant and the seed piece are not shown.





FIG. 2. *EARLY OHIO*: A *Run Out Tuber*. A type half way between the untubered stem and the wide flat Rural (W) in Fig. 12.

Those varieties that are naturally long are not vigorous enough for the corn belt. The Burbank and the Early Rose though still useful on sandy soils in cool northern regions have been driven out of the corn belt and out of the warmer irrigated districts of the west and have been replaced by the wide flat short varieties like the Rural and the Pearl. A like fate seems to await the Early Ohio in competition with the wider and flatter Cobbler.

Future varieties for the corn belt will have when at their best short, wide, flat tubers and potato breeders should reject all seedling tubers except those of this kind.



FIG. 3. *The under side of a large tuber*, showing the heavy eyebrows and prominence of eye parts common among large potatoes and to the run out tubers of some sorts. Note that the eyes point to the edge on the underside of tubers and to the center on the upper side. The better tubers are the more pronounced in this pointing.



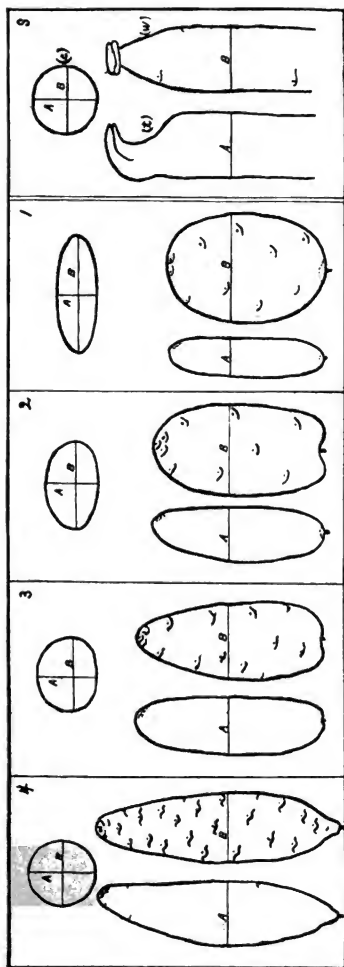


FIG. 4. *Diagram Illustrating the General Law of Tuber Shape.* The general law of tuber shape is that the finer the potato plant does, the wider, shorter and thinner its tubers will be in relative dimensions and the fewer and shallower the eyes; while the worse the plant does, the narrower, longer and thicker its tubers will be in relative dimensions and the more numerous and deep will be the eyes. In this diagram S represents the parts of an untubered tuber stem; the cross section (c) showing the thickness A and the breadth B; the lengthwise section (t) showing the thickness, and the profile (W) showing the width. Similarly numbers 1 to 4 represent a range of tuber dimensions from the finest wide, short, thin tuber (1) to the narrow, long, thick tuber (4). Run out tubers are usually pointed at the seed end, but they may become blunt there, or in extreme cases enlarged instead of pointed.



Between the wide smooth potato and the untubered stem there are all sorts of gradations. The longer the tuber the more nearly circular is its cross section—the more like an untubered stem it is. Eyes represent buds or embryo branches on the original stem. The eye-yoke or ridge below the eye is developed from the leaf in whose angle the branch or sprout was placed. The more normally the tuber fills out the less prominent are the eye parts. Very large tubers are an exception to this rule and have prominent eyebrows and deep eye pits. The eyebrows of large Rurals such as are shown in exhibits from irrigated regions often project as much as half an inch.

#### SHAPE IS NOT A SUFFICIENT MEANS OF IDENTIFICATION.

People sometimes ask the college to recommend a variety of potatoes which will have a tuber of a certain favorite shape. The public has the conception that tuber shape is a definite thing but such is not the case. While varieties have tendencies to typical shape, conditions and seasons modify tuber shape very greatly.

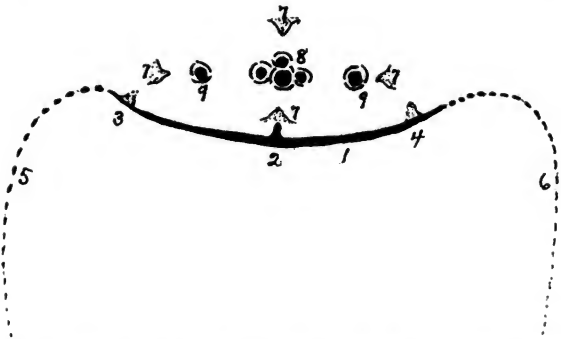


FIG. 5. *Diagram for Naming Eye Parts.* See also the microphotograph Fig. 6.

1. The eye yoke or line beneath the eye. When this part projects, it is called the *eyebrow*. In good types the yoke is short and not prominent. In poor types the yoke is longer and more prominent, and may curve down a long ways at the ends (5 and 6). These lines correspond to the leaf on an untubered stem.
2. A leaf point or midrib sometimes shows here or even at 3 and 4. The better the tuber the fewer and smaller are these leaf points.
- 7,7,7,7. Eye blinds, little bracts or points, whose color sometimes is significant.
8. The sprout tips just coming through, covered by little leaves, whose color is a chief means of tuber identification.
- 9,9. Side sprouts. Sometimes in wet ground, roots start from either side of the eye. All tuber parts show very clearly to what stem and leaf parts they correspond, if observed on tubers formed in the light, as is often done on the tops of diseased plants. The light makes the parts stand out.





FIG. 6. *Microphotograph of a Rural Eye.* The sprouts are just starting and the tiny leaves at the tips show the typical purple Rural color. See the diagram, Fig. 5.

With these facts in mind it is evident that the shape of tubers is an insufficient basis for identifying varieties. Varieties tend to resemble each other in their best shapes and in their worst shapes and in their smaller and very large tubers, and to be most typical in their medium sizes and medium grades. A considerable number of tubers of good, medium and poor types should be used as the basis of study of shape.\* This bulletin reproduces in Part III photographs of the various types of the varieties mentioned in Part I.

A basis for the descriptions used in Part II, will be found in the tuber and eye parts, and their names as illustrated by the diagrams and microphotograph of a potato eye, shown in figures 5, 6 and 7.

\*For use in short courses and schools two lots of one bushel each for each variety are desirable, one lot from a fine field and one from a poor field, each in sizes and types representative of the crop from which it came.



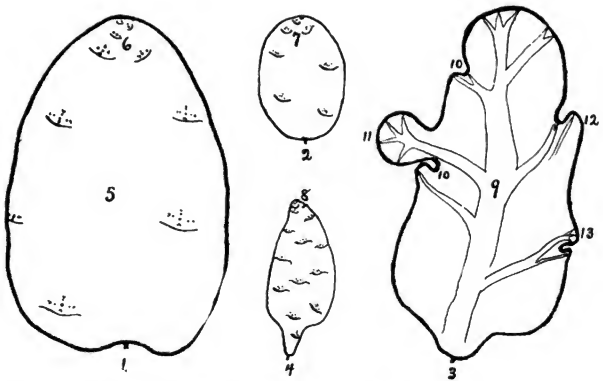


FIG. 7. *Diagram for the Naming of Tuber Parts.*

1. Recessed stem end. 2. Flush stem end. 3 and 4. Protruding and pointed stem ends. 5. A very good type of tuber. 6. Nosey eye or seed end. 7. Rounded eye end. 8. Pointed or run out eye end. 9. A lengthwise section of a tuber. 10, 10. Deep eye pits. 11. Knot or second growth. 12. An eye yoke protruded and forming an eyebrow. 13. An embryo knot, or compound eye.

Tuber shape is modified by other things than health or fertility. The position in the hill may change the shape. In at least one variety which is wide and flat and has most of its eyes on the upper side, an occasional tuber is set straight down. These tubers grow nearly cylindrical, with the eyes set evenly on the sides and squarely in the end.

The rolling-in of the seed end of a tuber is more or less a bad sign. The finest tubers do not have depressed seed ends. (See figs. 12 and 18.) The Cobbler in certain conditions may have nearly every tuber of the globular type and with depressed seed end. This rolling-in is characteristic of the medium types of many varieties. It is characteristic also of the most run out types of most varieties, and is accompanied by the thickening vertically of that end of the tuber.

Tubers in the corn belt or on the western dry lands often start small and then when rains and cool weather come grow large at the seed end, thus making a pear shaped tuber. Ohios and Rurals very commonly produce many such tubers. (See figures 8, 14 and 16.) The form is often quite desirable for table use and not specially objectionable for seed. Such potatoes are not only wider at the seed end than at the stem end but also are thicker than tubers which grow steadily and evenly from the time of setting.





FIG. 8. *RURAL*: Pear shapes produced by good growth after drouth. Most varieties would knot in such conditions. Good shape is a strong point of the Rural.

#### THE COLOR OF THE POTATO.

Pink or red color is affected by health or nutrition. This color is intensified by poor conditions and in run out stock. Early Ohios, for instance, may be a very light brownish-pink, almost white, or may be almost brick red. White Ohios may show much red at the eyes and at the eye end in bad conditions, and be pure "white"\* potatoes in good fields and seasons. "All-white"\* potatoes like the Green Mountain or the Pearl, especially when run out, will show some pink on stubby sprouts if long exposed to light. Pearls in cool sandy soil in Wisconsin have white eye blinds; in fair mountain conditions, the Pearl may have slightly pink eye blinds; in poor conditions, the Pearl may have bright pink blinds and a pink blush at the "joints" or nodes of the above ground stems of sick plants.

Poor shaped and deep eyed potatoes are apt to be densely colored, because deep color and poor shape have similar causes. Red color sometimes shows in the flesh of tubers in poor seasons; particularly do the tubers of the Early Rose, Ohio and Hebron varieties "cut red." The writer has seen extreme cases where the whole flesh was red, and has known one instance where many of the potatoes of a neighborhood were red all the way through.

The degree of whiteness of flesh sometimes helps a little in identification. Riper tubers, however, have whiter flesh. As the writer has found them in the markets, Rurals, Cobblers and Triumphs and many European sorts tend toward yellowness,

\*For definitions of "white" and "all white" see Part III.



while Green Mountain, Ohios, Burbanks, Peerless and Rose approach pure whiteness.

Soils are thought to influence the color of potatoes, and they do exercise such an influence, but through their effect on health and maturity. The color of the soil exercises no effect upon the color of tubers, the influence is due to soil texture and fertility.

The brownish color which overlies the skin of many so called "white" potatoes, appears to be given by the ripened and crackled epidermis. This brown color, where present, is more pronounced upon the older stem end of the potato, and may not appear at all at the later formed eye end, or upon the knots or second growth, or upon a tuber in the same hill which was set later than others. In some years the same variety may set early and ripen well and be quite russeted, while in other years in the same region it may set late and be matured only by frost, and the tubers be white and smooth.

When potatoes grow short sprouts in the light, leaves develop and roots appear as blister-like "stubs." The lower part of strong, short sprouts often start to swell or tuber and the colors

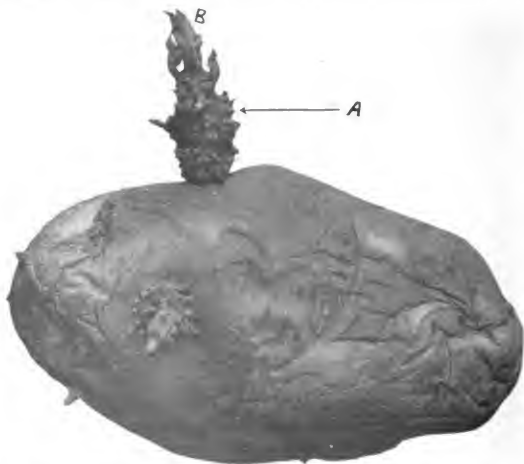


FIG. 9. *BURBANK*: Sprouts formed in the light, and swelling or tuberizing. A: one of the many root stubs. B: leaves.

The color of root stubs is one of the points sometimes useful in identification. Those of *Rurals* stay white, while those of the *Challenge*, for instance, take the purple color.

Root stubs will be found on all thick, short sprouts, even upon those which scarcely emerge from the eye pit and which mark the most desirable condition for machine planting.





FIG. 10. *EARLY OHIO*: Second growth due to weakness in hot soil. Potatoes spoiling in the cellar also form new tubers like those on the right.



FIG. 11. *A Typical Knotty Tuber*. The result of drouth and soakage on rich soil.

developed on the bulged sides of such sprouts often help to identify varieties.

Knotting, protruding or so called "compound" eyes, or second growth, are the result of weakening conditions like extreme



summer heat or disease, or follow some great shock like the stoppage of growth by drought. It is to be compared to the formation of the thick heads, called "witches' brooms," in diseased trees, or to the innumerable sprouts from a topped tree.

Sharp and long eye ends with numerous eyes are typical of badly run out tubers, and very bad tubers of this kind are usually the result of several or many years of hard conditions.

### *PART III. VARIETIES DESCRIBED AND IDENTIFIED BY THEIR TUBER FORMS AND COLOR MARKINGS.*

The writer has studied for some years how accurately to describe and identify varieties of potatoes. He long observed leaf shape and the character of the tops and decided that differences in these parts though having varietal characteristics shaded into one another or were too much modified by conditions to serve as a key to the identity of potato varieties.

The study of the blossom showed that it is more characteristic and that the colors of blossoms are practically constant. Considerable time was given to color studies of foliage, blossom, and of stem above and below ground.

It appears that the one permanent thing for each variety and throughout each plant is the color associated with the white of the stem below ground, appearing in the fleckings on the lower part of the stem, darkening or modifying the green of the leaves, and tinting the blossoms. This color appears also in the tubers at the tips of the dormant sprouts. Some varieties have a second characteristic color which overspreads the green of the tubers when exposed to light. Several varieties are found to be "all-white" sorts; that is, they do not possess any characteristic color other than white or the green developed by exposure to light. Fortunately, the more important of these sorts have tubers of quite different shape, or quite different skins.

Moreover, to be of use, methods of identification, must apply to the tuber only, or chiefly, because the great need is to identify during the winter season seed stocks and table potatoes, and usually the place of growth and the producer are unknown. This key is based upon tuber form and the color characters of the sprout tips and of the tuber skin. From a standard work on colors prepared for use by naturalists and in the arts twelve colors have been reproduced in plate I.

#### HOW TO USE THE COLOR CHART.

Although useful at any stage of the tuber or plant the best time to apply this key is when some eyes are still dormant and others just commencing to sprout. Keen eyesight is required to



|  |  |  |  |
|--|--|--|--|
|   |   |   |   |
| BLIND RED<br>42  | LIGHT RED ORANGE<br>78 D   | WEATHERED OHIO<br>149  | APPLE GREEN<br>312   |
|   |   |   |   |
| DULL PURPLE<br>509   | BLUISH VIOLET<br>512   | DARK VIOLET<br>558   | PALE RED VIOLET<br>571   |
|  |  |  |  |
| LILACY WHITE<br>578 A  | DARK LILAC<br>587  | OHIO LILAC<br>592  | PALE LILAC<br>597  |

## PLATE I: STANDARDS OF COLOR

For the *Identification of Varieties of Potatoes*

(After the Code des Couleurs)

When comparing colors, a piece of white paper with a hole cut in it may be used to cover all standards but the one.



detect the color at the first tips of the new sprouts, and a reading glass or pocket microscope is desirable.

Some will question the identity or even the close similarity of certain varieties described and the treating of certain names as synonyms. To such it may be said that the writer procured seed stocks from many sources and studied them for from three to six years side by side under six to ten widely different conditions and this report represents his conclusions. Under the description of the Irish Cobbler will be found an instance where local or short time observation would lead inevitably to the decision that the round Cobbler and the flat Eureka were two varieties, yet they are one and the same variety under different conditions.

All such tests are the author's except that he has accepted the report of Prof. A. R. Kohler, of the Minnesota Experiment station, as to the following names, found elsewhere herein: Barnabus, Hamilton Early, Norcross, Uncle Sam, Freeman, Market Prize, Enormous, Algonquin; and the report of Prof. Wm. Stuart of the United States Department of Agriculture as to the following names: Early Petosky, Early Victor, White Chief, Knowle's Big Cropper, and White Star.



### THE HISTORY AND ORIGIN OF VARIETIES.

The history and origin of varieties seems to be not often a matter of record but rather one of the memory of veteran growers and to many of them throughout the country the author is greatly indebted. In some cases deductions as to origin can be made from the qualities shown.

The word "white" is used herein to describe the uncertain yellowish or brownish white color of so called "white" potatoes or their sprouts. "White" blinds become brownish when old and dry, as toward spring. An "all-white" or "all-green" variety is defined to be one which normally has no color but white or green. See also the last lines on page 26.

#### *Rural.*

*Synonyms and Related Varieties.* Rural New Yorker No. 2, Carman No. 2, Dusty Rural, Vulcan, Banner, Million Dollar, Algonquin, Carman No. 3, Sir Walter Raleigh, the last two being seedlings of the Rural and indistinguishable from it. Late Petosky seems to be a russetted strain of the same group and to be less subject to scab.

*History.* Originated near New York City from seed ball of parentage unknown to the originator, Elbert S. Carman, editor of the Rural New Yorker. It was introduced in 1889. Trials were made at the Iowa Station in 1888. One of the best varieties ever produced and the leading variety of the United States, because even in hard conditions reliable in shape and yield, and a good keeper except for dry rot when held warm. Quality is fine where well matured but it is not always so in the corn belt. Tubers, if large, are usually hollow. Unless great care is used stands are apt to be poor, because in all regions the seed is subject to wet rot. This defect was noted by the originator. The Carman No. 3 and the Raleigh came from Rural seed balls sent to Mr. Carman from Belgium. A claim has been made that the Early Rose is the parent of the Rural family. Its characteristics, however, are those of the Green Mountain and the purple sprouted British sorts.

*Tuber Shape.* Wide and flat types when at best. See cuts. Ends rounded much alike. Stem end usually not recessed.

*Tuber and Eye Color.* Blinds, white. First sprouts, yellow or waxy white with bluish violet 512 tips which change on exposure to light, to dark as dull purple 509.\*

*Root Stubs.* Yellowish white, free from purple.

*Stem.* Erect and touched with brownish purple.

*Foliage.* Green, darkened by the purple, and in taste much more acrid than "all-green" foliage. Grasshoppers damage Rural foliage less than that of other common sorts.

*Blossom.* Bluish violet-white.

*Look first* for bluish violet tips on the smallest sprouts, then to type. Some imported foreign sorts have similar sprout color but thicker tubers, and skins that turn purple quickly in the sun light (i. e. in a day or two). Rural skins discolor very slowly and have much less purple in them.

---

\*See these colors on Plate I.





FIG. 12. *RURAL*: Good types. The better Rurals when still larger are longer, but with ends like these. Tuber (W) is an ideal Rural.





FIG. 13. *RURAL*: Medium and Bad Types.



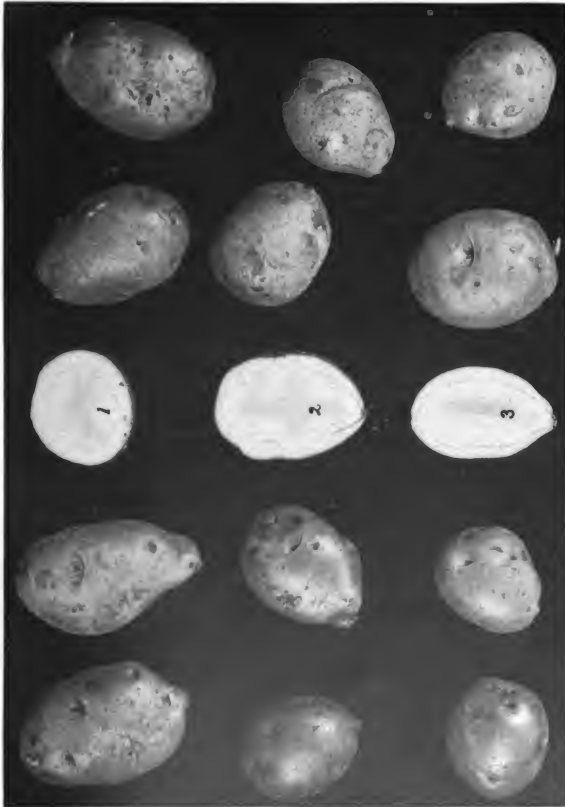


FIG. 14. *Rurals* typical of a warm dry season, showing the tendency to the thickened pear shape. No. 1 is a cross section; No. 2 is a lengthwise horizontal section; No. 3 is a lengthwise vertical section, of Rural tubers of this type. Compare with the general principles stated in connection with Fig. 4.



### *The Early Ohio.*

*Synonyms and Related Varieties.* Acme, Early Market, Early Six Weeks, Barnabus, Red River. White Ohio is a white sport and seems to be somewhat earlier and less vigorous. The late Ohio is a related sort, considerably later.

*History.* A seedling of the Early Rose and introduced in the early 70's. For many years the standard early variety of the United States, because of its fine table quality, and early maturity. The tuber knots and cracks and scabs badly and the plant is very subject to disease. Ohios are often difficult to tell from Hebron and Early Rose, especially in small sizes.

*Tuber Shape.* In the best conditions, Ohio tubers are somewhat flattened and slightly tapering, with stem end a least bit recessed. Many corn belt Ohios have flush stems and thick tubers with circular cross section somewhat enlarged toward the seed end. Eyes are evenly distributed as on all unflattened tubers and rather numerous.

*Tuber and Eye Color.* Skin brownish pink, almost "white" (human flesh color) to red changing on long exposure to light, to a weathered gray brown 149. First sprouts are white or greenish white with lilac tips 592. Bulged or slightly tubered sprouts long exposed to light run from lilac 592 to dark violet 558, and this color shows in the rootstubs also. Sprout leaves are darker apple green than 312. Blinds, light red orange 78D.

*Foliage.* Medium green.

*Blossom.* Lilacy white.





FIG. 15. *EARLY OHIO*: Good types.





FIG. 16. *EARLY OHIO*: Medium and bad types. O and P are pear shapes.



### *Irish Cobbler.*

*Synonyms and Related Varieties.* Eureka, Hamilton Early, Waubonsie, Early Petosky, Early Victor.

*History.* For years the leading early variety of Aroostook county, Maine, whence it has spread to the south and west. It is a trifle later than the Early Ohio, but produces a larger crop, is far less liable to knot and crack, is nearly immune to the internal brown spot which affects the Ohio in dry years, and seems likely to displace the Ohio, in spite of the somewhat better quality of the latter. The possibility of selling the Cobbler in the winter as a Rural should not be an argument for growing Cobblers, but it is used as such.

*Tuber Shape.* The finest type is flat and wide like good Rurals but there is a very distinct round, rough, deep eyed type formed in poorer conditions, and the two types may not be found in the same field or locality or season, although they are one and the same variety and so prove themselves when grown together. In some cases large tubers are pear shaped and rough like the largest Rurals and may combine the pear shape with the heavy eye brow types of the Rural. Flat Cobblers have been sold under the name of Eureka or Extra Early Eureka.

*Tuber and Eye Color.* Skin smooth yellowish white, changing in the light to dull olive green with a suggestion of blue. Blinds white. First sprouts white, dull pink tips, with lilacy white 578 A on the sides turning on exposure to pale lilac 597 or dark lilac 587, or on swelled sprouts to dark violet 558. Sprout leaves, hairy light green.

*Blossoms.* Pink with white tips on petals. White blossoms are not found on Cobblers, but indicate a mixture of inferior or later sorts.

*Look first* for smooth yellowish white skin, then for tuber shapes, and expose tuber and sprout to light, looking for the lilacy white 578 A on the sides of the small sprouts.





FIG. 17. *IRISH COBBLER*: Flat types. The best shapes. Tuber F is the flat type but has the rough Cobbler eye.





FIG. 18. *IRISH COBBLER*: Globular and rough types, and deep seed ends. There is also a long rough type like large Rurals, but Cobblers seldom have more knots than on tuber R.



### *Green Mountain.*

*Synonyms and Related Varieties.* Carman No. 1.

Vermont Gold Coin, Norcross, Uncle Sam, Freeman, Market Prize, Enormous, Green Mountain Jr., State of Maine.

*History.* Apparently an old variety in the Maritime provinces of Canada, now the leader in Maine and northern New England and common from New York to Wisconsin. A frequent mixture in Rurals and other white stocks throughout America. A good keeper, and a heavy producer under certain conditions.



FIG. 19. A portion of the tuber marked 1 in fig. 20, showing the Green Mountain netting, whose smooth even checks and characteristic brown color, occurring generally or here and there on a tuber is a chief means of identification of this variety.

*Tuber Shapes.* See cuts. The waisted or dumb bell type is characteristic. Stem end somewhat recessed.

*Tuber and Eye Color.* A fine smooth and quite brown netting is a feature of many of the tubers. An "all-white" variety. Blinds, "white."

*Sprout Tips.* White, or on exposure to light, apple green 312.

*Root Stubs.* White.

*Foliage.* Bright green.

*Blossom.* White. Buds, yellow.

*Look first* for the characteristic brown netting, then for dumb bell types, then make sure the variety is "all white."

Many "all-white" sorts may develop some pink on the sides of tubered sprouts when old or long exposed to light. This pink may show in any part of a plant in poor condition or environment, for example, in the stem below ground.





FIG. 20. *GREEN MOUNTAIN*: Good types. Note the tendency to squared ends, as compared to the rounded ends of the good *Rurals* of Fig. 12.



FIG. 21. *GREEN MOUNTAIN*: Medium and poor types. Note the dumb-bell shapes.



### *The Burbank.*

*Synonyms and Related Varieties.* The illustration is of the russetted skinned and scab resistant strain otherwise identical with the original smooth strain. Other names for the russetted strain: Russet, Golden Russet, Netted Gem, White Beauty. Several inferior long sorts are sold as Burbanks. White Chief, Knowle's Big Cropper, White Star, and Late Pride are of the Burbank group.

*History.* Originated by Luther Burbank at Lunenburg, Massachusetts, in 1872, from a seed ball of the Early Rose, which except in color it greatly resembles. The Burbank quickly became prominent over most of the country, but is now largely confined to the Pacific coast, Wisconsin and Minnesota, where it is a leading variety and to parts of the south. It is not a specially good keeper and the plant is not hardy, but the quality is very fine, and the price of this variety at Chicago has been for years the government standard for records of price.

*Tuber Shape.* Long, largest at the center. Best type, shorter, wide and flattened. Poor type spindle shaped. Stem end flush. Eyes shallow or flush. In poor conditions very subject to knots and to tuberizing above ground.

*Tuber and Eye Color.* Blinds, white. Skin, white, changing in light to greenish gray brown. First sprouts, white with light green tips. Exposed sprouts, pale violet 571 to dark violet 558. Leaves, apple green.

*Foliage.* Bright green.

*Blossom.* White, buds yellow.

*Look first* at the shape then at eye colors. Other long sorts are seldom as smooth.





FIG. 22. *BURBANK*: Good types. This photograph is of the russetted strain. Tuber 1 and others like it are ideal, and far superior for table and much more productive as seed than tubers 3, 4, 5 and their like in Fig. 23.

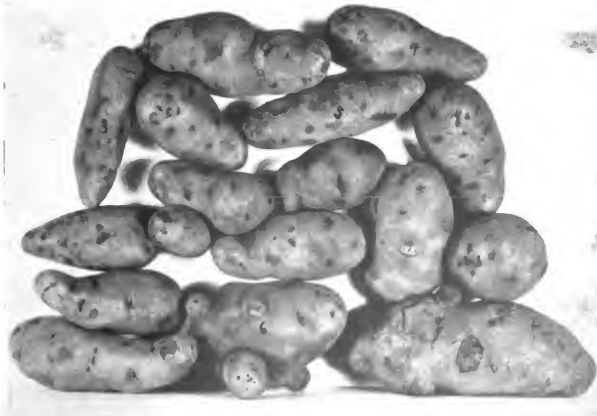


FIG. 23. *BURBANK*: Medium and poor types. This photograph is of the russetted strain. 6. Burbanks in bad conditions, knot very seriously.



### *Peerless or Pearl.*

**Synonyms and Related Varieties.** The Peerless of Wisconsin and Iowa is the same as the Pearl of Colorado but each name has been applied to other sorts in the East. The Peerless originated and originates freely today as a sport from the Blue Victor as did also the brown Peoples, Peoples Party or Polaris. The Peerless is called also Mammoth White Pearl, White Victor and Valley Prize. The Peerless, Peoples and the Blue Victor are identical except in colors.

**Description.** The Peerless is a white sort of great vigor and productiveness, ripening two weeks ahead of the Rural. It is almost the exclusive variety of the Greeley and San Luis districts of Colorado. The Peerless is important in Wisconsin. For Iowa it ranks close up to the Rural in yield. Peerless in quality is better in Iowa, shape poorer everywhere, than the Rural.

**Tuber and Eye Color.** Skin, white, or if ripened well, brownish white, coarsely crackled. An all-white sort with white sprouts turning to green in the light, though having a little pale red violet 571 to dark violet 558 on the tubered sides of sprouts long exposed to the light. Skin turns dull green in light. Blinds vary from white on sandy lands in Wisconsin or Maine to lilacy white 578A or dark lilac 587 in the Rocky Mountain regions.

**Blossom.** White, when borne. Buds, white or greenish white.

**Stem and Foliage.** Vigorous, bright green.

**Look first** at the shapes and white sprout tips and then if in the west, for the pink blinds.



FIG. 24. *PEERLESS (PEARL)*: Good types. Large potatoes of good shape are longer but have similar ends. The same is true of Rural. Poor types of Peerless are badly knotted and may be very rough. Deep eyes especially at the seed end are common with this sort.



### *Bliss Triumph.*

**Synonyms and Related Varieties.** Red Bliss, Stray Beauty, Strawberry Red, Salzer's Earliest. The White Bliss or Pride of the South is a white sort and the color is the same except that the body color is white. White Bliss and Noroton are slightly earlier.

**Noroton Beauty.** This variety is called also Uncle Gideon's Quick Lunch. The tuber is identical in all respects, including eye colors, with the White Bliss, except the body color of the Noroton Beauty is white with pink splashings extending in the direction of the circumference of the tuber. The Noroton and the White Bliss are the earliest varieties we have and are of interest to home gardeners who want to distance their neighbors in having early potatoes before the Fourth, and to people in high altitudes or in the far north.

**History.** Said to be a seedling of the Peachblow. It has been grown for many years as a first early in the South and is grown in Cuba in midwinter and in the Bahamas. Its brownish red skin shows bruises but little so that it can be shipped when still immature, and this variety is seldom allowed to ripen but is eaten when still hard. The Bliss Triumph has long supplied the bulk of new potatoes for our spring market throughout most of the United States. The Cobbler has taken its place in many places.

**Tuber Shape.** More or less roughly globular, recessed stem. Large tubers somewhat oval or nose-y.

**Tuber and Eye Color.** Pink to red brown skin changing in light to grayish red brown. Blinds, pink to red brown. First sprouts, white, changing to green. Pale lilac 597 on tubered sprouts, changing on exposure to dark violet 558. Sprout leaves, dark apple green.



FIG. 25. *BLISS TRIUMPH*: Average run of tubers. A and B show the characteristic dry rot which often serves to identify early sorts.



while outdoor losses have been heavy in either single or double walled hives. Bees should be left in the cave until about the middle of April.

*A. B. Tackaberry, Cantril, Van Buren County:* Out door wintering losses average about fifteen per cent, with no loss of normal colonies wintered in the cellar. One yard is wintered in the cellar with two wintered outside. The cellar wintered bees are always ahead. Honeydew about one year in five causes about fifty per cent winter loss if not removed from the hive. Double walled hives have not proved satisfactory.

*Edw. G. Brown, Sergeant's Bluff, Woodbury County:* Where conditions are normal cave wintered bees have not lost to exceed ten per cent as an average including spring losses. Have wintered by packing outside with good results but this method requires too much time and labor with greatly increased consumption of stores.

*F. W. Hall, Colo, Story County:* After trying every plan have decided that for Iowa conditions cellar wintering is best. Of equal numbers wintered in cellar and packed outside losses have been several times greater in outdoor wintered colonies. (Sioux County). In Story county lost only one colony in 356 wintered in the cellar. In one cellar which was too warm losses were heavier. When bees are in right condition they will winter in almost any hole in the ground. No apparent differences in results whether tops and bottoms are left on, or removed.

*W. S. Pangburn, Center Junction, Jones County:* A seven-eighth inch entrance is used winter and summer. The bees are tiered up five high in cellar with front of hive one inch lower than back. The door is frequently opened at night to let in fresh air. Temperature is not so important as proper ventilation and a dry cellar. The results of wintering are frequently perfect, but have had some losses when honey dew was mixed with the stores. Spring dwindling is caused by putting the bees out too early. Plenty of stores for early brood rearing are important.

*B. A. Aldrich, Smithland, Woodbury County:* The fellow who can winter successfully is the successful honey producer. Spring dwindling is the result of poor wintering. For ten or twelve years of first bee experience I wintered on natural stores with heavy losses, clogged entrances, dampness, cellars foul, etc. Now all old queens are replaced in the swarming season. In the fall most of the honey is extracted and the bees fed sugar syrup. Forty to fifty pounds of stores not too much for Iowa. The extra weight of double walled hives bars them from the Aldrich apiaries. With proper provision for winter and a good cellar winter losses are small.

#### SUMMARY.

The extensive honey producers are agreed on certain things that are essential to successful wintering by any method. These are sufficient stores of good quality, strong colonies, vigorous queens and a dry situation. Many letters mentioned the importance of spring protection by a suitable windbreak. If all these conditions are met the method of wintering is not of so much importance. Bees with an old queen, or poor stores or weak in numbers need much better protection in order to survive the winter than is necessary for prime colonies.



OFFICIAL PUBLICATION OF  
IOWA STATE COLLEGE OF AGRICULTURE  
AND MECHANIC ARTS

Vol. XIII

AUGUST 1, 1914

No. 8

# ROPE AND ITS USES

By A. A. BURGER



AGRICULTURAL EXTENSION  
DEPARTMENT

Extension Bulletin No. 24

Ames, Iowa

Published Tri-Monthly by the Iowa State College of Agriculture and Mechanic Arts. Entered as Second-class Matter, October 26, 1905, at the Post Office at Ames, Iowa, under the Act of Congress of July 16, 1904.



## *FOREWORD*

Every farmer uses rope in some way many times during the year. Therefore, a knowledge of the correct methods of making knots, ties, hitches, splices, halters, etc., is not only intensely practical, but besides, has a direct money value. For example, it very frequently happens that a hay rope breaks at a time when it is most needed and when delay means a loss of part of the crop; animals are often tied by the neck in such a way that the knot slips and they are strangled; heavy beams and scaffolds oftentimes are supported by an insecure hitch, which may loosen and thus become a menace even to the safety of human life. But aside from this, a knowledge of the different forms of rope work is a convenience and a time saver. As a form of handiwork, there is nothing more interesting and instructive to boys and girls. Indeed, the teachers of the rural and city schools have come to recognize its value in stimulating the mind and training the hand. The almost universal use of rope makes a knowledge of the practical application of the different knots, hitches and splices of value in every field of industrial activity.

A. A. BURGER,  
County Agriculturist.



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# ROPE AND ITS USES.

By A. A. Burger.\*

## GENERAL INFORMATION

**Kinds of Rope.** At the present time rope is made chiefly from sisal or manila hemp. The former, which is the whiter and cheaper fiber, comes from Yucatan; the latter from the Philippine Islands, and receives its name from the chief port of shipment. Rope is also made of cotton and of wire. The latter finds little use on the farm while the cotton rope because of its softness is used about the house and also in making fancy halters for "show" stock or for young animals having tender skins.

A rope is composed of a certain number of "strands," the strand itself being made up of a number of single threads or yarns. Three strands laid or twisted together form a "hawser-laid" rope, and three such hawsers similarly laid make a "cable-laid" rope or a "cable." A "shroud-laid" rope usually consists of four strands laid around a central strand or core. The prepared fiber is twisted or spun to the right hand to form a yarn; the required number of yarns receive a left hand twist to make a strand; three strands twisted to the right make a hawser; and three hawsers twisted to the left form a cable. Thus the twist in each operation is in a different direction from that of the preceding one and this alteration of direction serves, to some extent, to keep the rope in its proper form.

**Why Rope is Twisted.** The primary object of twisting fibers together into a rope is to hold together the strands when a strain is applied. Twisting also compacts the fibers and prevents, to some extent, the penetration of moisture. The proper degree of twist in ropes is generally such that the rope is from three-fourths to two-thirds the length of yarn composing it. Hence when a weight is hung on the end of a rope there is a tendency for it to untwist and become longer. In thus untwisting the strands will loosen, the weight will revolve and

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the yarns in the strands will tighten until the strain upon them equals the strain upon the strands. In making rope the aim is to make the tension on the strands and on the yarns composing the strands equal. But since this is impossible it is always necessary to take out the "turns" in a new rope for the first two or three days that it is used. In case a new rope is inclined to be so "kinky" that it cannot be used the twist may be removed by tying it to a wagon and dragging it about on the ground.

**Rope Data.** The following table is based upon calculations for new manila rope without knots. In estimating the breaking strength of rope the following formula from Hunt and Miller has been used: Breaking strength equals 720 times the square of the circumference in inches. The safe load for any rope represents the greatest load that should be placed upon a single rope for its most economical wear. It will be seen in these tables that the safe load as given in the fifth column is about one-eighth the breaking load given in the last column.

The last column gives in inches the diameter of the pulley which will give the best results with a given sized rope. As

#### USEFUL FACTS ABOUT THREE-STRAND MANILA ROPE.

| Diameter (inches) | Circumference (inches) | Weight of 100 feet of rope (pounds) | Length of each lb. of rope (feet—inches) |     | Safe load (pounds) | Breaking load (pounds) | Diameter of pulley (inches) |
|-------------------|------------------------|-------------------------------------|--|-----|--------------------|------------------------|-----------------------------|
| 3-16              | 9-16                   | 2                                   | 50                                       | 0   | 35                 | 230                    | 1½                          |
| 1-4               | 3-4                    | 3                                   | 33                                       | 4   | 55                 | 400                    | 2                           |
| 5-16              | 1                      | 4                                   | 25                                       | 0   | 90                 | 630                    | 2½                          |
| 3-8               | 1 1-9                  | 5                                   | 20                                       | 0   | 130                | 900                    | 3                           |
| 7-16              | 1 1-4                  | 6                                   | 16                                       | 8   | 175                | 1240                   | 3½                          |
| 1-2               | 1 1-2                  | 7 2-3                               | 13                                       | 0   | 230                | 1620                   | 4                           |
| 5-8               | 2                      | 13 1-3                              | 7  | 6   | 410                | 2880                   | 5                           |
| 3-4               | 2 1-4                  | 16 1-3                              | 6  | 1   | 520                | 3640                   | 6                           |
| 7-8               | 2 3-4                  | 23 2-3                              | 4  | 3   | 775                | 5440                   | 7                           |
| 1                 | 1                      | 28 1-3                              | 3  | 6   | 925                | 6480                   | 8                           |
| 1 1-8             | 3 1-2                  | 38                                  | 2  | 7   | 1260               | 8820                   | 9                           |
| 1 1-4             | 3 3-4                  | 45                                  | 2  | 2   | 1445               | 10120                  | 10                          |
| 1 3-8             | 4 1-4                  | 58                                  | 1  | 8   | 1855               | 13000                  | 11                          |
| 1 1-2             | 4 1-2                  | 65                                  | 1  | 6   | 2085               | 14600                  | 12                          |
| 1 3-4             | 5 1-4                  | 97                                  | 1  | 0   | 3070               | 21500                  | 14                          |
| 2                 | 6                      | 113                                 | 0  | 10  | 3600               | 25200                  | 16                          |
| 2 1-2             | 7 1-2                  | 184                                 | 0  | 6.5 | 5630               | 39400                  | 20                          |
| 3                 | 9                      | 262                                 | 0  | 4.5 | 8100               | 56700                  | 24                          |



ropes pass over pulleys there is a constant bending and straightening. This causes the strands to chafe one another at the center. The smaller the rope and the larger the pulley the greater the wear. Hence to avoid serious wear on a hoisting rope it should be run over a pulley of a diameter not less than 8 times the diameter of the rope in inches. For example a  $\frac{3}{4}$ -inch hay rope requires a 6-inch pulley, a 1-inch rope an 8-inch pulley. Ropes used for transmitting power, as is required in the case of belts, should not be run over pulleys less than 40 times the diameter of the rope.

**Weakening Effect of Knots.** Knots, hitches and turns weaken the tensile strength of any kind of rope. When a load is applied to a straight rope the strain is evenly distributed on all the fibers but in the case of a knot or hitch the greatest strain occurs on the fibers on the outside of the bend with the result that they are overloaded and break. The strain is then thrown on the inside fibers with the result that the center rope soon gives way. The strength of rope decreases as the abruptness of the bend increases. It will be seen in the following table that when the strength of a straight rope is represented by 100 the same rope with a simple overhand knot has a strength of but 45. In the case of the timber hitch where the bend is less abrupt the relative strength is 65 and in the eye-splice where the bend is still less abrupt, 90.

APPROXIMATE EFFICIENCY OF KNOTS, HITCHES AND SPLICES.

|                          | Straight rope | Eye-splice over an iron eye | Short splice | Timber hitch anchor band | Clove hitch, running bowline | Square knot, Weaver's knot | Overhand knot |
|--------------------------|---------------|-----------------------------|--------------|--------------------------|------------------------------|----------------------------|---------------|
| Efficiency of the knot-- | 100           | 90                          | 80           | 65                       | 60                           | 50                         | 45            |

**Care of Rope.** The life of ordinary rope is materially increased when it can be kept in the dry. Ropes which have become wet should always be thoroughly dried out in the sun before they are coiled up and hay ropes which are used inside of barns where they may absorb moisture from the drying hay should be removed when not in use. The alternate drying and wetting is very detrimental to the rope fiber.



Ropes are made with the twist of the strands to the right and hence when coiled into rolls should always be coiled in the same direction or "with the sun." When the rope is uncoiled the end first laid down should be drawn up through the center. Whenever the rope is unwound from the end last laid down there is always a tendency for it to twist. The same is true of binder twine and for this reason if it is unwrapped from the outside it will twist and snarl.

#### EXPLANATION OF TERMS RELATING TO CORDAGE.

Yarn—Fibers twisted together.

Thread—Two or more small yarns twisted together.

String—The same as thread but a little larger yarns.

Strand—Two or more large yarns twisted together.

Cord—Several threads twisted together.

Rope—Several strands twisted together.

Hawser—A rope of three strands.

Shroud-Laid—A rope of four strands.

Cable—Three hawsers twisted together.

Yarns are laid up left-handed into strands.

Strands are laid up right-handed into rope.

Hawsers are laid up left-handed into a cable.

A rope is:

Laid—By twisting strands together.

Spliced—By joining to another rope by interweaving the strands.

Whipped—By winding a string around the end to prevent untwisting.

Served—When covered by winding a yarn continuously and tightly around it.

Parceled—By wrapping with canvas.

Seized—When two parts are bound together by a yarn, thread or string.

Payed—When painted, tarred or greased to resist wet.

Haul—To pull on a rope.

Taut—Drawn tight or strained.

**Relaying Strands.** The process of building up a rope from single strands is called laying a rope and the process of twisting together strands that have become untwisted, relaying. The most satisfactory method of relaying strands is that illustrated in fig. 1. The rope should be held firmly in the left hand and the thumb placed upon one of the strands as shown in the illustration. Strand no. 1 is then twisted tightly with





FIG. 1

## RELAYING STRANDS

work is properly done the rope may assume its original condition.

**Whipping.** Binding the end of a rope with twine so that it will not unravel is called whipping. Ropes that are to be passed through pulley blocks, halter ropes and the ends of strands used in making splices are usually finished in this way.

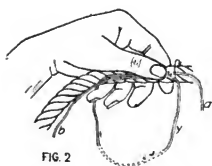


FIG. 2

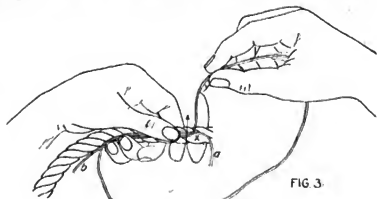


FIG. 3.

## THE BEGINNING OF THE "WHIPPING"

Secure a piece of string about three feet long and place it on the rope allowing the end *a* to hang loosely over the end of the rope about two inches. Now make a loop by passing the other end of the string *b* down the rope and allowing a loose end of about two inches. Grasp the rope with the left hand in such a manner that the thumb can be placed on both strings as at *x* in fig. 2. Then with the right hand, grasp the loop of the string at *y* and wrap it down the rope over itself and the other strand (fig. 3.) Continue the wrapping as far as desired (one-half inch or more) then draw up the loops and tighten

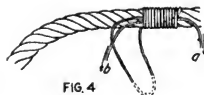


FIG. 4



FIG. 5

## THE FINISHED WHIPPING



the tie by pulling on the ends *a* and *b* (fig. 4). If the string is wrapped firmly and closely, when complete it should appear as in fig. 5.

## KNOTS

**Overhand Knot.** The overhand knot is the simplest knot made. It is very important, however, since it forms a part of many other knots. It is made by simply making a loop in the rope and passing one end as *a* through the loop, thus forming the right-hand knot as shown in fig. 6. If the loop at *x* is made to pass behind *b*, the end *a* will pass through the loop from this side and will form the left hand knot. The overhand knot is used principally in connection with other knots and in making hitches and splices. Used alone, it will draw tight.



OVERHAND KNOT



BINDER KNOT

**Binder Knot.** This is the simplest method of joining two ropes and is the knot tied by all automatic binding attachments on grain harvesting machines. The knot is made by placing the two rope ends side by side and tying an overhand knot. It will not slip but when tightly drawn is difficult to untie (fig. 7.)



FIG. 8



FIG. 9

BLOOD KNOT

**Blood Knot.** If, in making the overhand knot, the end of the rope is passed through the loop, two, three or four times (fig. 8) before pulling it taut, the double, treble or fourfold knot is obtained (fig. 9). This is a larger knot than the overhand and is often used on thongs or whips being termed the blood knot.

**Square or Reef Knot.** The commonest knot for joining the ends of two ropes, and probably the knot that is most often made, is the sailor's true knot or reef knot. In making it care should be taken not to make a granny knot. (See description of granny, fig. 12.)



First tie the right-hand form of the overhand knot (fig. 10) then across the strands (*a* in front of *b*) and tie the left-hand overhand knot. Notice that the ropes leave the loops together (fig. 11). The square knot can be easily and quickly tied, it is easily untied and is secure and reliable except when made with ropes of different sizes. The ease with which the knot can be tied and untied makes it very useful in reefing sails, and its smoothness and secure character makes it of use to the farmer in fastening the ends of binder twine when threading the binder.



FIG. 10



FIG. 11

SQUARE KNOT

**Granny or Lubber's Knot.** This knot is often improperly used for the square knot and is of little value because it slips



FIG. 12



FIG. 13



FIG. 14

GRANNY KNOT  
HITCH FROM GRANNY KNOT  
GRANNY KNOT, ENDS WHIPPED

easily. The first step in making the knot is similar to that in making the square knot (fig. 10) but in completing it, the strand *a* passes behind the strand *b* before it is passed through the loop. Notice in fig. 12 that the ropes are on opposite sides of the loop. When the knot is drawn out of its correct form it assumes the shape of a hitch as shown in fig. 13. This kind of hitch slips easily and explains why it cannot be safely used.

**Granny Knot With the Ends Whipped.** The granny knot is often used in tying large ropes together. In this case, however, the ends should be whipped to the standing part with strong twine (fig. 14). This prevents the knot from untying as well as from drawing tight.



**Surgeon's Knot.** The surgeon's knot is a modified form of the square knot. But instead of making but one twist as in fig. 10 the left end *b* is wrapped twice about the other rope



FIG. 15

SURGEON'S KNOT

part can be tied. As the name implies the surgeon's knot is used in surgical operations.

**Weaver's Knot or Sheet Bend.** This knot is easily made, is easily untied and never draws tight. Place the two ends of the rope together, the right *a* under the left *b* (fig. 16). Hold the two in place with the left hand, and with the right hand holding the rope at *x* pass it around the end *a*, as shown in fig. 17. Release the right rope at *x* (fig. 17) and with the right hand, pass the end *b* through the loop as shown in fig. 18. The knot is completed by pulling on the ropes as indicated in fig. 19. By inserting a wooden stick or "toggle" into the knot, as shown in fig. 19, it may be more easily untied.

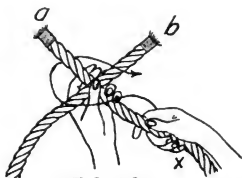


FIG. 16



FIG. 17



FIG. 18

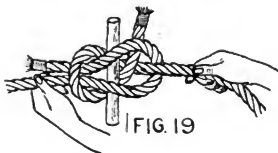


FIG. 19

WEAVER'S KNOT



**Figure 8 Knot.** This knot is made by making a loop in the rope by passing the end *a* over the standing part *b* at *x* as shown in fig. 20. The end *a* is then passed beneath the standing part *b* and is brought back through the loop *y*. It is drawn taut by pulling on the standing part (fig. 21). The knot is used on the ends of ropes to prevent them from slipping through a pulley or hole.



FIG. 20



FIG. 21

FIGURE "8" KNOT



FIG. 22

FLEMISH KNOT

**Flemish Knot.** Ropes are often tied together by laying the two ends side by side and making the Flemish knot. (Fig. 22.) This knot is made in the same manner as the figure eight (figs. 20 and 21).

**Stevedore Knot.** The stevedore knot like the figure eight, is used to prevent ropes from pulling through pulleys or holes. It is made in the same manner as the figure eight but instead of making one turn around the standing part *b*, three turns are made as shown in fig. 23. The end is then passed back through the loop as shown by the direction of the arrow in fig. 23. The standing part of the rope *b* is then drawn until the loop *x* is taut (fig. 24).



FIG. 23



FIG. 24

STEVEDORE KNOT

**Bowline Knot.** The bowline is without question the most useful and most important of the different knots. It is easily tied, will not slip nor draw tight and may be easily untied. It is used in fastening animals, in the hay field or stacking outfits, in tying hay ropes, and in fact in any place where a permanent knot that is easily untied is wanted. Sailors use it in mooring their ships; hence the name bowline, from the line fastened to the bow of the vessel.

(1) *Bowline—Beginner's Method.* The knot is made by passing the end of the rope as *a* through a ring or around a post.



A loop or half hitch is then made in the standing part of the rope about two feet from the end *a* (fig. 25). The end *a* is then brought through the loop *b* from the upper side as shown in fig. 26. Next, the end *a* is passed over the standing part of the rope at *c*, as in fig. 27, and is then passed back through the loop *b*. Fig. 28 shows the completed knot drawn taut.



FIG. 25



FIG. 26

#### BEGINNER'S BOWLINE KNOT



FIG. 27



FIG. 28

#### BEGINNER'S BOWLINE FINISHED.

(2) *Bowline — Boy's Method.* Placing the rope through a ring or around the object to which it is to be tied, lay both hands, palms down, on the standing part of the rope as in fig. 29. With a twist of the right hand make a loop



FIG. 29



FIG. 30



FIG. 31



FIG. 32



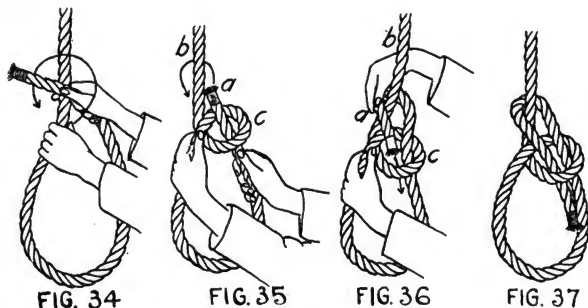
FIG. 33

#### BOY'S BOWLINE KNOT



or half hitch *b* as shown in fig. 30. Now with the left hand, pull the standing part of the rope *c* through the half hitch *b* making a loose slip knot (fig. 31). Bring the end *a* through the loop of the slip knot *d* and fold it back upon itself, holding it firmly with the right hand as in fig. 32. With the left hand on the standing part of the rope, give a quick jerk in the direction indicated by the arrow and the knot is completed (fig. 33).

(3) *Bowline—Overhand method.* With the right hand on the end of the rope and the left on the bight in the position as shown in fig. 34, make a loop by bringing the left hand around the end of the rope as indicated by the direction of the arrow in fig. 34 and shown in fig. 35. Now, with the left hand hold the loop in place. Grasping the end of the rope *a* with the right hand bring it around beneath the standing part (*b* fig. 36) and back through the loop *c* as in fig. 37. This is the quickest and easiest method of making the bowline knot.

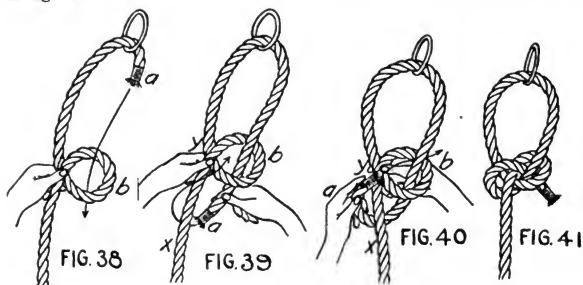


OVERHAND BOWLINE KNOT

**Teamster's Hitch.** The teamster's hitch is a modified form of the bowline and is given here because it is often misused for that knot. Unlike the bowline it draws tight and is difficult to untie. Fasten the rope to the object to which it is to be tied. Then make a loop or half hitch in the rope (fig. 38) and bring the end *a* through the loop from the upper side (fig. 39) as in starting the bowline. But instead of bringing the end over the standing part of the rope at *x*, as in the case of the bowline, it is passed under the rope *x*. In other words it is passed around the loop where the ropes cross as at *y* in fig. 40. The end *a* is then passed down through the loop *b* as

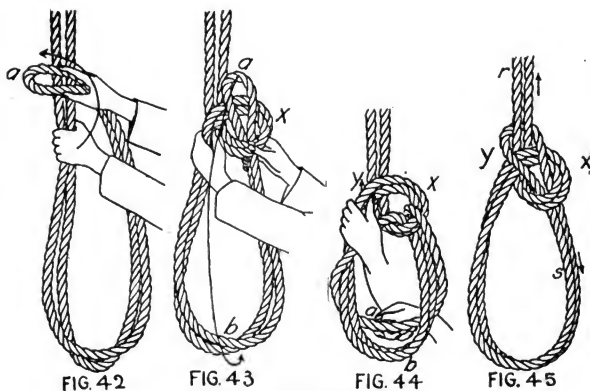


indicated by the arrow in fig. 40. The completed knot is shown in fig. 41.



TEAMSTER'S HITCH

**Bowline on the Bight.** This knot is made in the middle of a long rope or at the end of a rope when it has been doubled.



BOWLINE ON THE BIGHT

The steps in beginning it are the same as those used in making the bowline (see description of bowline, overhead method figs. 34 to 37) except that a double rope is used. Fig. 42 shows the first step. A loop is then made about the end *a* with the left hand as shown in fig. 43. The end *a* should now be pulled



through the loop *x* far enough so that it may be drawn downward as indicated by the arrow. The loop *a* is now slipped over the large loose loop *b* as indicated in fig. 43, and then carefully moved back (fig. 44) until it is in the position of *a* in fig. 45. In tying the knot care should be taken to prevent the half hitch or loop *x* from losing its form. This can be done by holding the ropes together where they cross at *y*. To tighten the knot pull carefully on the ropes at *r* and *s* in the direction of the arrows (fig. 45). The bowline on the bight while not as important as many other knots is especially useful in throwing horses and cattle. It is safe because it will not slip nor draw tight and is easily untied. Its use is further described under "tackles for throwing horses and cattle."

**Spanish Bowline.** This knot may be made in the middle of a long rope or in a loop at the end of the rope. It forms two single loops that will hold without slipping when used either separately or together. The knot is easily untied.

Form a bight in the rope (fig. 46) and

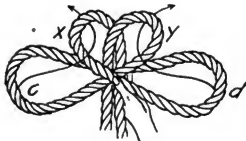
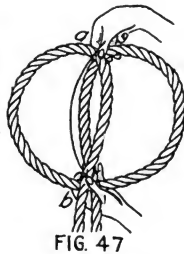
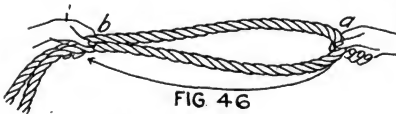


FIG. 48



FIG. 49

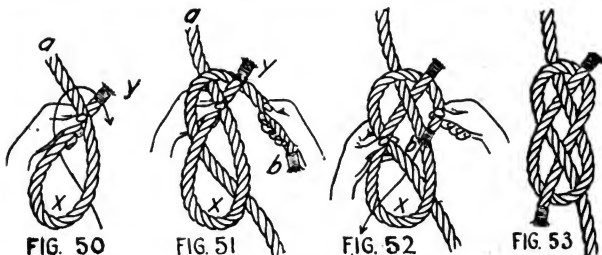
#### SPANISH BOWLINE KNOT

with the right hand, fold it under the ropes as at *b*, thus forming two loops (fig. 47). Cross the two loops of the bight as shown in fig. 47 and with the right hand grasping the crossing *a*, fold these loops over on the part *b* forming four smaller loops as shown in fig. 48. Holding the loops thus formed with the left hand, pass the loops *c* and *d* through the



smaller loops  $x$  and  $y$ , each on its respective side as indicated by the arrows. Pull the loops through and the knot is finished (fig. 49). The knot is easily made if care is taken not to let the loops slip or lose their form.

**Carrick Bend.** For tying ropes together no better knot can be used than the carrick bend as it is quickly and easily tied. It is secure and does not draw tight. The carrick bend is often used as a fancy knot in braids or bands. In making the knot lay the end of the rope  $y$  under the standing part  $a$



CARRICK BEND

to form a loop as shown in fig. 50; pass the other end of the rope  $b$  under the loop  $x$ , over the standing part at  $a$  and under the end  $y$  as shown in fig. 51. Holding the ropes firmly in position push the loop  $b$  through the loop  $x$  as shown in fig. 52,



FIG. 54

DOUBLE BOWLINE

making a slight loop. Then pass the end of the same rope  $b$  between the raised loop of  $b$  and the loop  $x$  as indicated by the arrow in fig. 52 and illustrated in fig. 53. If the standing parts of the rope are pulled a modified form of the knot will be the result (fig. 54). This form of the carrick bend is sometimes called the double bowline.

**Harness Knot.** This knot is used by seamen in making knots in a towline because it can be easily tied and untied and does not seriously weaken the rope. It is made by first making a simple slip knot, drawing the loop through only a short distance as illustrated in fig. 55. The lower part of the loop  $x$  is



then passed between the bight and the side of the loop as indicated by the arrow in fig. 55 and shown in fig. 56. In drawing up the knot it is necessary to hold it firmly against some object



FIG. 55

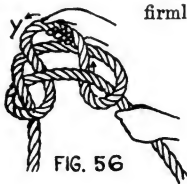


FIG. 56



FIG. 57

## HARNESS KNOT

and pull on the part of the loop *y* in the direction indicated by the arrow. Fig. 57 shows the knot completed.

**Farmer's Loop.** The farmer's loop can be tied in the middle of a rope when both ends are fastened. It is easily tied and easily loosened. Make two turns in the rope and hold it in position as indicated in fig. 58. Pass the loop *a* under the loop *b* and up between *b* and *c*, as shown in fig. 59. Next pass the loop *c* under the loop *a* as indicated in fig. 59 and shown in fig. 60. Now pass the loop *b* under the loop *c* and up between

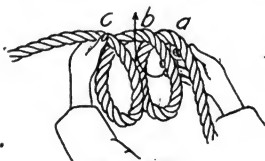


FIG. 58



FIG. 59

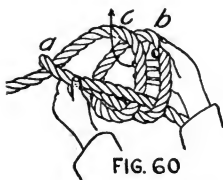


FIG. 60

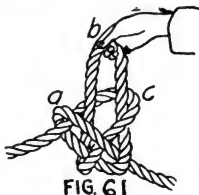


FIG. 61



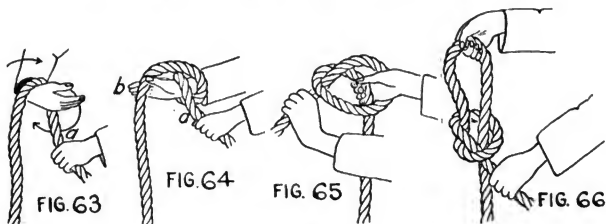
FIG. 62

## FARMER'S LOOP



*a* and *c*, as indicated in fig. 60 and as shown in fig. 61. Tighten the knot and it is complete (fig. 62).

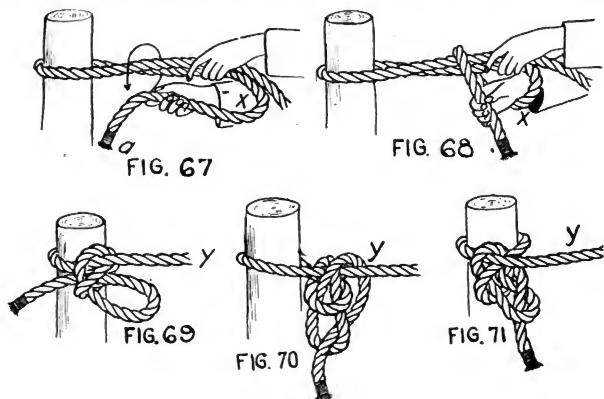
**Slip Knot.** The slip knot is one of the common knots. It can be easily and quickly made by catching the bight of the rope with the right hand, as in fig. 63, and then by giving the



SLIP KNOT

hand a turn in the direction indicated by the arrow in such a manner as to catch the end *a* over the wrist as in fig. 64. Grasp the bight of the rope at *b* fig. 64, and pull it through the loop as in fig. 65. Fig. 66 shows the completed knot.

**Manger Knot.** The manger knot, as the name implies, is most commonly used in tying halter ropes to a ring or post. It is easily made, is secure when properly tied and can be loosened

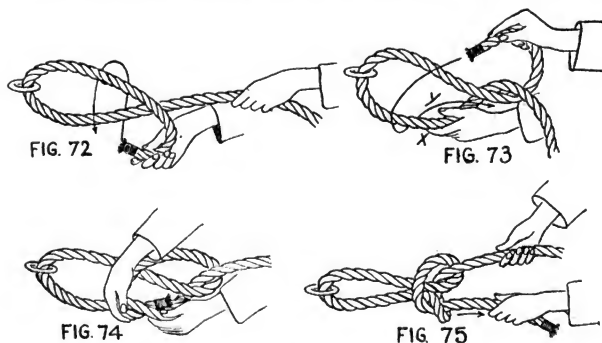


MANGER KNOT



by a simple jerk of the hand. To make the knot, pass the rope around the post so that the short end will be in the right hand. Grasp both ropes with the left hand (fig. 67) and with the right throw the short end *a* across both ropes in front of the left hand as indicated by the direction of the arrow (fig. 67). Now with the right hand reach through the loop or bight *x* thus formed (fig. 68) and pull the rope through, tightening it and forming another loop (fig. 69). The end of the rope is now thrown over the standing part and passed through the loop as shown in fig. 70. The knot is sometimes incorrectly made by passing the end through the loop (fig. 71) without first passing it around the standing part of the rope *y*. In this case when the loop is drawn down tightly there is difficulty in untying the knot. There is also a right and wrong way in tying the knot when making a hitch to a smooth post. Fig. 70 shows the knot in the correct position to the right of the post. In this position the pull will come on the knot causing the loop around the post to tighten. Fig. 71 shows the wrong position. The pull in this case coming on the tie rope opens the loop around the post and allows the hitch to slip down.

**Halter Tie.** The halter tie is often used in fastening animals. It is sometimes used instead of the bowline but unlike the bowline draws tight and if not carefully made it often slips. With the left hand on the standing part of the rope and the right hand holding the end, bring the short end down across the standing part of the rope as in fig. 72. Passing the end around the rope as indicated by the direction of the arrow



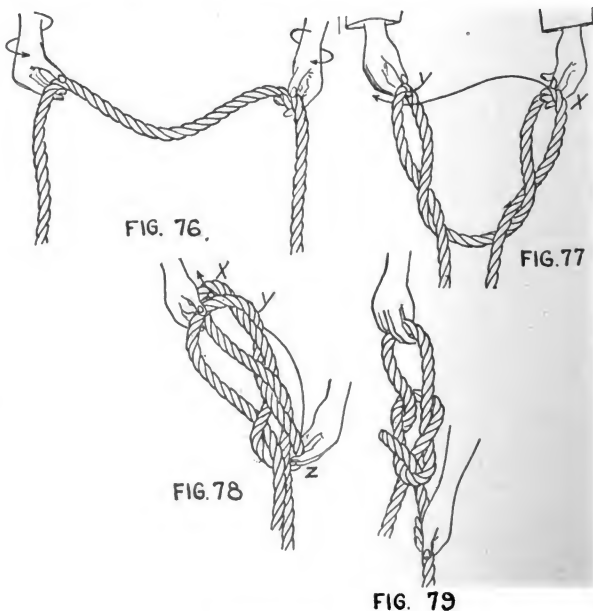
HALTER TIE



(fig. 72) with the left hand grasp the standing part of the rope at  $x$  as shown in fig. 73. Now pass the end beneath both ropes, as indicated by the direction of the arrow in fig. 73 and through the loop  $y$  formed by the left hand (fig. 74). In tightening the knot, draw on the short end first (fig. 75) or it may be pulled out of shape and two half hitches formed.

**Emergency Knot.** The emergency knot is used for the same purpose as the bowline. It can be tied any place in a long rope without the necessity of drawing the end through the knot to be tied. When firmly drawn the knot is difficult to untie.

In beginning the knot the rope is held with the palms of the hands up, the end upon which the pull is to come in the right hand (fig. 76). Throw two loops in the rope with each hand as shown in fig. 77 by turning the hands in the direction of the



EMERGENCY KNOT



arrows as indicated in fig. 76. Now pass the loop *x* held in the left hand, through the loop *y* in the right hand so that it extends beyond the loop *y* about two inches as shown in fig. 78. Holding the loops *x* and *y* with the right hand (fig. 78), grasp the loop *z* with the left hand and in turn, pass it through the loop *x* held in the right hand as shown by the direction of the arrow in fig. 78. The knot is completed by pulling on the loop last formed and the standing part of the rope (fig. 79).



FIG. 80

FISHER-  
MAN'S  
KNOT

**Fisherman's Knot.** The fisherman's knot derives its name from the fact that it is commonly used for joining silkworm gut on fishing tackles. In making it the strands are laid together, and an overhand knot (fig. 80) is made with one end *a* around the other strand *b*. The strands are then turned end for end and another overhand knot made with the other end *b* around the first strand *a*. See overhand knot (fig. 6).

**Fisherman's Eye Knot.** This knot may be made by the method just described or by another method somewhat more complicated but much quicker when learned. Make a bight in the rope (fig. 81). Then grasping the bight with the right hand at *x* lay it over on the two strands at *y* thus forming two loops (fig. 82). Now cross the loops as in fig. 83 and with the right hand draw the strand *x* down between the two ropes *y* and up through the loop *a* as indicated by the arrow in fig. 83. Fig. 84 shows the knot completed.

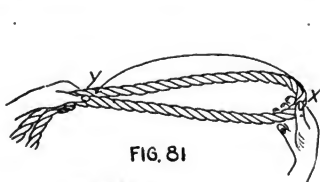


FIG. 81

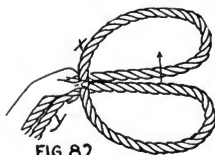


FIG. 82



FIG. 83



FIG. 84

FISHERMAN'S EYE KNOT



**Tom Fool's Knot.** The tom fool's knot, or double bow as it is sometimes called, is a trick knot and yet at the same time it is very useful. It is commonly used in ringing hogs, one of the loops being placed around the upper jaw. It is tightened on the jaw by pulling the standing part of the rope  $x$  and untied by pulling the end of  $y$  (fig. 88).

To tie the knot hold the rope with the palm of the left hand up and the palm of the right hand down (fig. 85). Now turn both hands toward the right as indicated by the arrows in

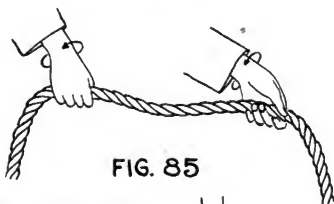


FIG. 85

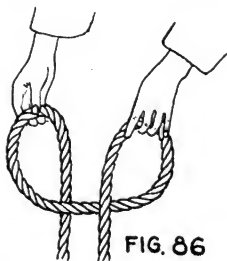


FIG. 86

fig. 85 and shown in fig. 86, so that the palms will face each other. Holding the hands firmly in that position, bring the two loops together as shown in fig. 87 so that they may be drawn through from opposite sides in the direction



FIG. 87

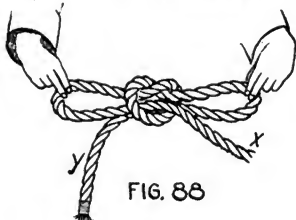


FIG. 88

TOM FOOL'S KNOT.

of the arrows. Releasing the hold upon the rope at  $x$  with the left hand, reach through the loop formed by  $x$  and grasp the rope  $y$ ; and releasing the strand  $y$  with the right hand reach through the second loop formed by  $y$  and grasp the rope  $x$  then pull the ropes through in opposite directions forming a double loop. Fig. 88 shows the completed knot.

**Lineman's Rider—End Method.** Linemen and especially telephone men often use a knot which they term the lineman's rider. It is absolutely secure and will hold from any point upon which it may be drawn.



Doubling the rope as shown in fig. 89 fold it back upon itself as indicated by the arrow, so as to form two loops (fig. 90). Now holding these loops in the left hand, with the right bring the end *a* under the bight *x* and back through the loop *y* from the upper side, as indicated by the arrows in fig. 90

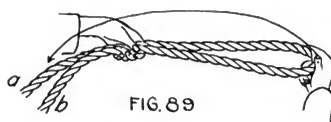


FIG. 89

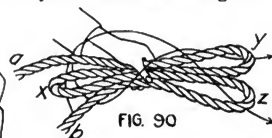


FIG. 90

and shown in fig. 91. The other end *b*, is next passed under the bight *x* in the opposite direction and back through the loop *y* in

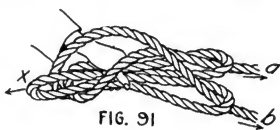


FIG. 91

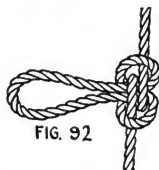


FIG. 92

#### LINEMAN'S RIDER—END METHOD

the same manner as described for *a*. Tighten the knot by drawing on the bight *x* and the two ends *a* and *b*. The completed knot is shown in fig. 92.

**Lineman's Rider—Loop Method.** Holding the doubled rope in the left hand, grasp the bight or loop with the right, and



FIG. 93

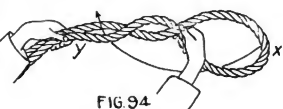


FIG. 94

twist it one full turn thus forming the loop *x* as shown in fig. 93. Now with the right hand, grasp the loop at the crossing (fig.

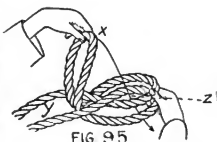


FIG. 95

#### LINEMAN'S RIDER

94). Then with the left hand draw the loop *x* between the two ropes at *y* as indicated by the arrow in fig. 94 and shown in fig. 95. Pass the loop *x* through the loop *z* as indicated by the arrow in fig. 95, and tighten the knot by drawing on the loop *x* and the two ends (fig. 96).

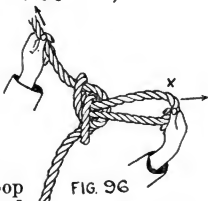


FIG. 96

#### LOOP METHOD



**Hangman's Noose.** The hangman's noose is made by making a double loop in the rope as indicated in fig. 97. The end is then wound back (fig. 98) thirteen rounds over the loop and



FIG. 97

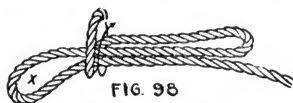


FIG. 98



FIG. 99



FIG. 100

#### HANGMAN'S NOOSE

the standing part (fig. 99). The knot is completed by passing the end through the loop *y* as shown in fig. 99, and drawing on one side of the noose *x* as indicated by the arrow in fig. 100.

### HITCHES

**Half Hitch.** For temporarily fastening ropes when there is a steady pull the half hitch is often used. Its chief use, however, is in connection with other knots or hitches. The half



FIG. 101

hitch is made by passing the end of the rope around the standing part and pinching it between the rope and the object to which it is attached (fig. 101).



FIG. 102

**Timber Hitch.** The timber hitch is much more secure than the half hitch and is often used by carpenters, foresters and lumbermen in moving logs or timbers. It is, in part, a repetition of the half hitch since the end, instead of being simply tucked under the rope is wrapped about it once or more (fig. 102).

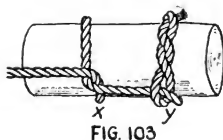


FIG. 103

#### HALF AND TIMBER HITCHES

**Timber Hitch and Half Hitch.** As the name implies this hitch is a combination of the timber hitch and the half hitch. The two when thus used together make a more secure hitch than either alone and are especially



useful in lifting timbers, long pipes, pumps, or other long objects where a nearly straight end pull is desired. When the loops cannot be passed over the end of the object the half hitch *x* should be made first. The end is then passed back to form the timber hitch *y* (fig. 103).

**Magnus Hitch.** The magnus hitch is useful in securing a rope to a spar as there is but little tendency for it to slip endwise. Pass the end of the rope around the spar in front of the standing part *x*, around the spar again on the other side of the standing part and then through the bight *y* last formed (fig. 104).

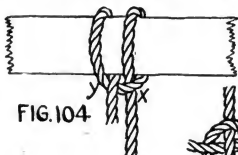


FIG. 104

**Rolling Hitch.** A rolling hitch is made by wrapping the rope three times around the object to which it is to be fastened and then making two half hitches around the standing part. The hitch may then be hauled taut. It is very easily and quickly made and is secure (fig. 105).

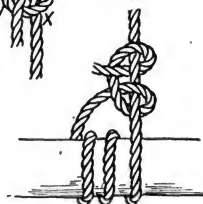


FIG. 105

MAGNUS AND ROLLING  
HITCHES

**Topsail Halliard Bend.** Fig. 106 shows the topsail halliard bend completed but not drawn taut. Three turns are first made around the object to which the rope is to be fastened; it is then brought back around the standing part, through beneath the three wraps, back again over the last two wraps and under the first.



FIG. 106



FIG. 107



FIG. 108

TOPSAIL HALLIARD  
FISHERMAN'S BEND  
ROUND TURN AND  
HALF HITCH

**Fisherman's Bend.** The fisherman's bend is used for permanently fastening the end of a rope to a ring or hook and is frequently used in fastening boats, hammocks, anchors, etc. The hitch consists of two turns around the ring and a half hitch completely around the standing part and the two turns (fig. 107). The end of the rope may be spliced into the standing part or it may be simply whipped to the latter as in the illustration. The object of



having the rope through the ring twice is to give it greater wearing surface.

**Round Turn and Half Hitch.** The round turn and half hitch has the same use as the fisherman's bend and is similar to it with the exception that the half hitch is made only around the standing part of the rope (fig. 108).

**Clove Hitch.** The clove hitch is the most used of any of the hitches, being the simplest, the most convenient and the most secure method of fastening tent ropes, guy ropes or other temporary stay ropes. It may be formed either in the end or in the middle of the rope without access to the ends and it will be secure with either end of the rope used as the standing part.

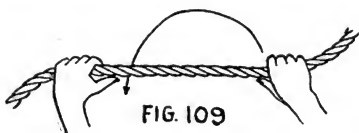


FIG. 109



FIG. 110

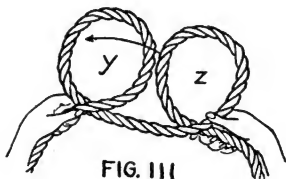


FIG. 111



FIG. 112

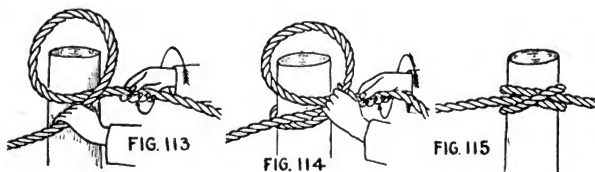
BEGINNER'S CLOVE  
HITCH

1. *Clove Hitch—Beginner's Method.* To make the hitch by this method the rope is held in both hands as shown in fig. 109. The right hand is then made to describe a curve, as illustrated by the arrow, (fig. 109) passing under the rope at *x* fig. 110. Hold the half hitch in the left hand as shown in fig. 111 and throw the second loop in the same manner as the first (fig. 111). Slide the loop last formed *z* over the first *y* as indicated by the arrow in fig. 111 and shown in fig. 112.

2. *Clove Hitch—Sailor's Method.* Oftentimes it is desirable to form a clove hitch where there is a pull on the rope. This can be done by sustaining the weight with the left hand as

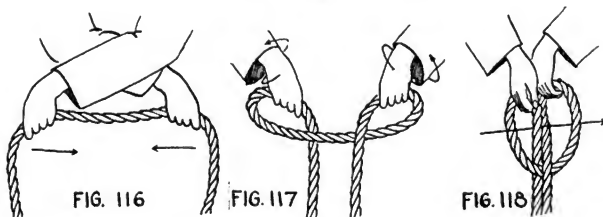


in fig. 113, forming a loop with the right hand as illustrated in the beginner's method (figs. 109 and 110) and passing the loop over the top of the post. The end of the rope is then held in the left hand, and another loop made with the right hand, (fig. 114) is thrown over the post (fig. 115).



SAILOR'S CLOVE HITCH

3. *Clove Hitch—Farmer's Method.* This method of making the clove hitch is the most practicable and the one most commonly used. Crossing the arms, the left in front of the right, grasp the rope as indicated in fig. 116. Without twisting the rope, bring the hands to the position indicated in fig. 117. The hitch is completed by turning both hands to the right, as indicated by the arrows in fig. 117 and shown in fig. 118. Both loops may then be held in the right hand.



FARMER'S CLOVE HITCH

**Scaffold Hitch.** A very simple but satisfactory form for fastening scaffolds may be made by slightly modifying the clove hitch. Make a clove hitch of ample size so that when it is placed over the end of the scaffold the ends swing freely below it, as in fig. 119. The ropes are then tightened by being pulled in opposite directions to the edge of the plank, as shown in fig. 120. Turn the plank over, draw the ropes up and fasten the short end to the standing part by a bowline knot (fig. 121). A scaf-



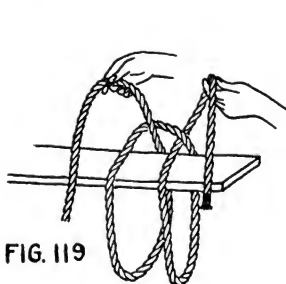


FIG. 119

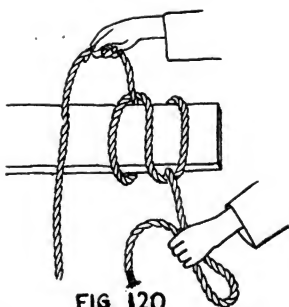


FIG. 120

## SCAFFOLD HITCH

fold hitch is made on the other end of the plank and the scaffold is ready for use.

**Miller's Knot.** This knot is often confused with the clove hitch but while in many cases it is used for the same purpose, it is made in a different manner. The knot (really a hitch) is used by farmers and millers in tying grain and flour sacks and is also used in fastening ropes to long beams when the end of the beam cannot be reached.

Hold the standing part of the rope in the left hand while with the right pass the free end around the beam so that the loop crosses the rope *y* held in the left hand (fig. 122). The free end in the right hand is brought over the loop at *x* and under the standing part at *y* as indicated by the arrow in fig. 122 and shown in fig. 123. When the strands are drawn the knot appears as in fig. 124.

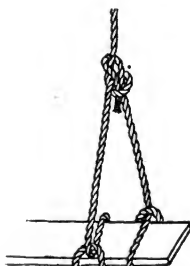


FIG. 121

## SCAFFOLD HITCH

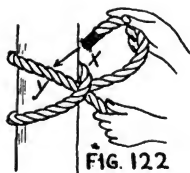


FIG. 122



FIG. 123



FIG. 124

## MILLER'S KNOT



**Taut Line Hitch.** Very frequently in using ropes or cables there are occasions when it becomes necessary to attach one rope to another. For instance, when a strand in a rope breaks under the weight of a heavy load, it is often desirable to relieve the tension at that point by fastening another rope above the break. Such a fastening can be made by using the taut line hitch.

Give the end of the rope two full turns about the taut rope, wrapping in the direction of the break (fig. 125) and drawing the wraps firmly and closely together upon the

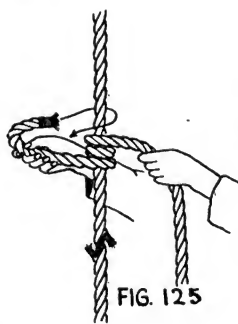


FIG. 125



FIG. 126

TAUT LINE HITCH

taut rope. Now pass the end over the two wraps as indicated by the arrow in fig. 125, and wind it once more about the taut rope, completing the hitch by passing it through the loop thus formed (fig. 126). The hitch will not hold unless it is tied very firmly and tightened while the weight is being applied to the new rope. The taut line hitch is very useful in case of emergency but it should not be used as a permanent fastening.

**Running Hitch or Snubbing Hitch.** The taut line hitch described in the preceding paragraph forms the principal part of the running hitch which is used in snubbing animals. The animal can be easily held by simply throwing the rope around a post and holding to the free end which forms a half-hitch

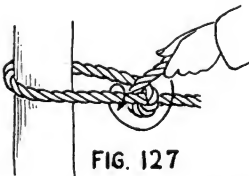


FIG. 127

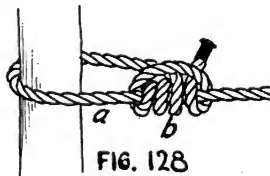


FIG. 128

SNUBBING HITCH



around the rope to which the animal is fastened (fig. 127). By using the half hitch in this manner any slack can easily be taken up and as easily the animal can be given more rope. If a more permanent fastening is desired the free end may be wrapped about the standing part as indicated by the arrow in fig. 127 and the hitch then completed (fig. 128) as described for the taut line hitch in figs. 125 and 126. The running hitch will not slip in the direction of the pull, i. e., toward the post, but by taking hold with one hand at *a* and the other at *b*, (fig. 128) it can be slid quite easily in the opposite direction and the slack thus quickly taken up. The running hitch should never be used as a permanent tie.

**Sheepshank.** For shortening ropes of any size, either temporarily or permanently, there is no form of fastening that is more satisfactory than the sheepshank. This hitch is made by grasping the rope in the left hand, then bringing it up with the right hand so as to form a loop large enough to reduce the rope to the desired length (fig. 129). The ropes are then held in the left hand as in fig. 129, a half hitch is made with the



FIG. 129



FIG. 130



FIG. 131

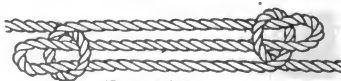


FIG. 132

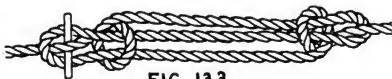


FIG. 133

SHEEPSHANK

right hand (fig. 130) and passed over the end (fig. 131). Reversing the rope, grasp the other end in the left hand as shown in fig. 129 and

complete the hitch as described in figs. 130 and 131. Fig. 132 shows the temporary sheepshank completed. To make a permanent shortening the ends are passed through the bights or



toggled as shown in fig. 133. Sometimes the ends are whipped to the bights with binder twine, or else the overhand knot is used.

**Racking Hitch.** The racking hitch is often used by railroad men as a hook fastening for large ropes where heavy loads are to be lifted. In making the hitch the rope is held in the hands, palms up, and two loops are formed by turning the hands in the direction of the arrows (fig. 134). The loops are each given a full turn and hung on the hook as shown in fig. 135.

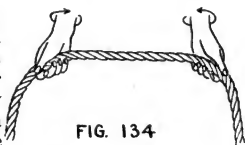


FIG. 134

RACKING HITCH



FIG. 135

**Catspaw.** The catspaw is a very satisfactory hitch and although a little more difficult to make than the racking hitch, it is easier untied. With the long end of the rope toward the right side of the body make a loop and grasp the ropes at the crossing with the left hand (fig. 136). With the right hand bring up the

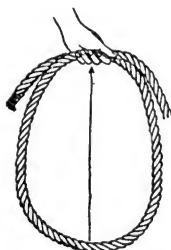


FIG. 136



FIG. 137



FIG. 138

CATSPAW HITCH

loop as indicated by the arrow in fig. 136 and hold it with the left as shown in fig. 137. Now with the right hand begin wrapping the long part of the rope over itself and the other two ropes as shown in fig. 138. The loops are then adjusted until they are the same length and are then fastened (fig. 139).



FIG. 139



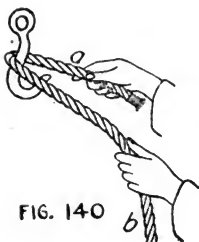


FIG. 140



FIG. 141

BLACKWALL HITCH

**Blackwall Hitch.** This is a simple, though satisfactory temporary hitch that may be used with either a rope or chain when the pull is continuous. A bight is made in the rope and is passed behind the hook (fig. 140). The free end *a* is then passed through the hook and the standing part *b* passed over it from the opposite side (fig. 141).

**Slippery Hitch.** The slippery hitch can only be used when there is a steady pull. Its value consists in the readiness with which it can be cast off in cases of emergency. A sharp pull on the end of the rope loosens it. The method of making the hitch may be seen from the illustration (fig. 142).

**Marlinspike Hitch.** This hitch is made by beginning a simple slip knot. But instead of drawing the loop through and tightening the knot, the loop is only drawn through far enough so that a marlinspike can be placed in position to hold it, as in fig. 143. This hitch is used only as a means of getting a purchase on the seizing stuff when serving a rope.

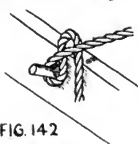


FIG. 142

SLIPPERY  
HITCH

FIG. 143

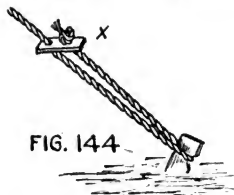
MARLINSPIKE  
HITCH

FIG. 144

TENT ROPE LASHING

**Regulating Lashing.** A regulating lashing is very convenient on ropes where the tension needs frequent changing. It is often used on tent ropes but may be used on any sort of guy rope where the tension is not too great. The rope is tightened by slipping the wooden block *x* in the direction of the pull (fig. 144).



## ROPE END KNOTS

**The Crown Knot.** The crown knot, while in itself not a complete and permanent fastening and of small value when used alone, is nevertheless very important as the basis of rope end splices.

To make the knot unlay the end of the rope far enough so that the knot or splice, if a splice is to be made, may be completed, then bring strand no. 1 down between strand nos. 2 and 3 forming a loop as shown

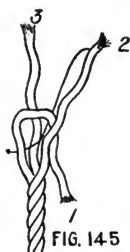


FIG. 145



FIG. 146

CROWN KNOT



FIG. 147

in fig. 145. Pass strand no. 2 across the loop thus formed, as shown by the arrows in fig. 145, so that it will lie between the loop and

strand no. 3. Strand no. 3 is now passed through the first loop as indicated in fig. 146 and shown in fig. 147. Pull the crown down tightly by pulling gradually on each of the strands.

**Wall knot.** Among the different forms of rope end fastenings that are easily and quickly made, the wall knot is the most commonly used.

For a small rope unlay the strands about three inches. Hold the rope in the left hand, with the loose strands upward. With the right hand grasp the end of strand no. 1 and bring it across the rope forming a loop and allowing the end to hang free as shown in fig. 148. Hold the loose end in position with

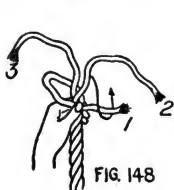


FIG. 148



FIG. 149



FIG. 150



FIG. 151

WALL KNOT



the thumb of the left hand. Grasp strand no. 2, pass it under strand no. 1 as indicated by the arrow in fig. 148 and hold it against the rope with the thumb of the left hand (fig. 149). Again with the right hand, grasp strand no. 3, pass it under strand no. 2 and up through the first loop formed as indicated by the arrow in fig. 149. and shown in fig. 150. Draw each of the strands gradually until the knot is tight (fig. 151).

**Wall and Crown Knot.** A more secure fastening than the wall knot is made by first making the wall knot (see description of wall knot figs. 148, 149, 150 and 151) then finishing with the crown as shown in fig. 152. (See description of crown knot, figs. 145, 146 and 147.) The two knots are drawn together as shown in fig. 153.



FIG. 152



FIG. 153

WALL AND CROWN KNOT



FIG. 154



FIG. 155

MANROPE KNOT

**Manrope Knot.** This knot is just the reverse of the wall and crown knot. The crown knot is made first (fig. 154) and the wall knot drawn down over it (fig. 155). See description of the wall knot, figs. 148, 149, 150 and 151 and also of the crown knot illustrated in figs. 145, 146 and 147.

**Matthew Walker Knot.** This is one of the most permanent of the end knots and at the same time one of the most difficult to tie. It can be most easily made by loosely constructing the wall knot, as shown in fig. 156 (see also wall knot figs. 148, 149 and 150) then continuing as follows: Pass the end *a* through the loop with *b*, the end *b* through the loop with *c* and *c* through the loop with *a* as indicated by the arrows in fig. 156. Tighten the knot gradually by drawing each of the ends (fig. 157).

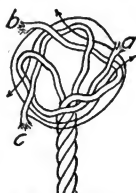


FIG. 156



FIG. 157

MATTHEW WALKER KNOT.

**Diamond Knot.** This knot is very satisfactory when tied in the end of a rope but is most generally used as an ornamental knot at some distance from the end. In this case it is neces-



sary to unlay the ends farther down the rope, the strands being relayed again when the knot is completed.

In beginning the diamond knot a crown knot is first made as described in figs. 145, 146 and 147. The strands are not drawn down tightly but should be arranged loosely as shown in fig. 158. The end *a* is then passed around the loop of the next strand *c* and up through the center at *x* similarly, *b* is passed around *a* and *c* around *b*, each passing through the center *x* as indicated by the arrows. When tightening the knot it is necessary to tighten the crown knot at the base first. If the knot is tightened by drawing on the ends first it will be drawn away from the twisted strands of the rope. Fig. 159 shows the diamond knot as it looks when completed.

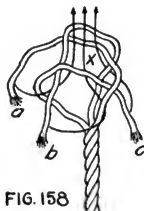


FIG. 158



FIG. 159

DIAMOND KNOT

## SPLICES

**End or Crown Splice.** The end splice is a permanent fastening used on the end of a rope to prevent it from unraveling.

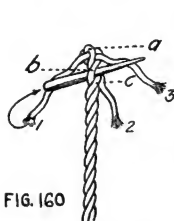


FIG. 160



FIG. 161



FIG. 162

END OR CROWN SPLICE

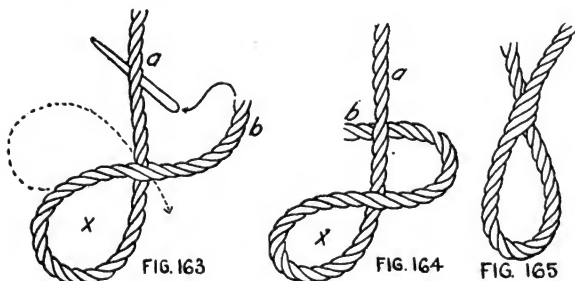
The first step in making the splice is that of making the crown knot which is described in figs. 145, 146 and 147. The second step consists in splicing back the loose ends. Strand no. 1 is passed over the nearest strand *a* on the main rope and under the second *b* in a diagonal direction, almost at right angles to the twist of the strands (fig. 160). Strands no. 2 and no. 3 in turn, are in like manner spliced back, no. 2 over *b* and under *c*, and no. 3 over *c* and under *a*. Each strand is tucked under

Strand no. 1 is passed over the nearest strand *a* on the main rope and under the second



but one strand of the main rope at a time (fig. 161). To make a smooth, tapering splice cut out a portion of the fibers after each tuck and when finished pound the splice lightly with a short stick or hammer and roll it on the floor under the foot (fig. 162). In splicing ropes a smooth, pointed, hard wood stick or marlinspike is very convenient in raising the strands.

**Loop Splice.** The loop splice although seldom used except in making rope halters, may be made at any point in the rope. It is simply a permanent loop through which another rope or some part of the same rope is to pass.



LOOP SPICE

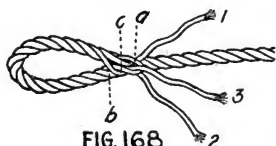
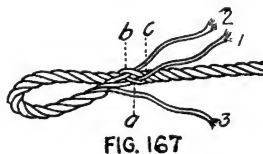
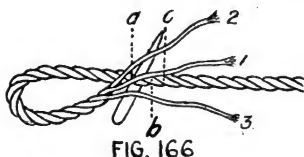
In making the loop splice for a halter raise two strands as shown in fig. 163 pass the long end *a*, or lead rope, under the strands thus raised in such a manner that when the loop *x* is drawn to the desired size the rope *a* will pass through beneath the two strands at right angles to the direction in which they are laid. This is very important for if the long end *a* is passed under the raised strands in the direction indicated by the dotted line the loop splice when completed cannot be properly drawn up. To complete the splice raise two strands in the long part of the rope, as indicated by the marlinspike (fig. 163) and pass the short end through (fig. 164). Draw the ropes closely together as in fig. 165.

**Eye Splice or Side Splice.** The eye splice is used both in making halters and in splicing one rope to another.

Untwist the end of the rope and place the strands in position, the two outside strands straddling the main rope and the middle or top strand running along the top of the rope. Now with the marlinspike raise any one of the strands as *a* and pass



the center strand no. 1, under it, diagonally to the right (fig. 166). Turn the main rope toward the left and pass strand no. 2 over strand *a* and under the strand *b* lying next to it (fig. 167). Now in order to pass strand no. 3 under strand *c* so that it will be diagonal to the strands of the main rope it will be necessary to bring the rope to the position in which it was first held. Then raise strand *c* of the main rope and be



particular that strand no. 3 passes under it from the lower side so that the end comes out where strand no. 1 entered (fig. 168). Each loose strand should now pass under but one strand of the main rope. No two should be under the same strand and no two should come out from between the same two strands. Complete the splice by splicing in the strands as described for the end splice (figs. 160, 161 and 162). Fig. 169 shows the splice complete.

**Short Splice.** To join two ropes together where there is a straight pull and where they are not required to pass through pulleys, the short splice is often used.

In making the splice the ends of the two ropes are unlaid for a sufficient distance and the two ends then locked together so that those from one end pass alternately between those from the other end (fig. 170). Notice that the strands from opposite sides are in pairs. Then taking two strands from opposite sides, as the pair *a* and no. 1 tie the simple overhand knot in its right hand form as shown in fig. 171. (See overhand knot fig. 6.) Similarly, with the right hand knot tie together the strands forming the pairs *b* no. 2 and *c* no. 3. Draw the knots tightly, then passing each strand of the rope *x*



diagonally to the left, tuck the ends under the strands of *y* as described for the end splice in figs. 160, 161 and 162. Turn the rope end for end and in the same manner splice down the strands of the rope *y* (fig. 172). Splice down the strands

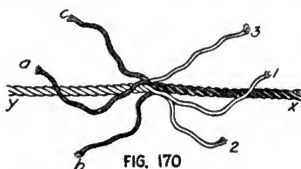


FIG. 170

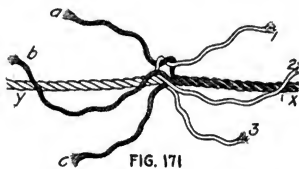


FIG. 171

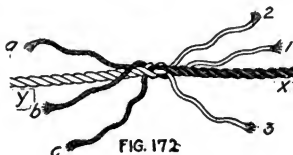


FIG. 172



FIG. 173

SHORT SPLICE

alternately, and each strand but one place each time. When the splice is completed each strand from both ropes should be spliced under at least two places (fig. 173). The length of the splice must depend upon the size of the rope and the load to be placed upon it. This splice may be made without tying the overhand knots by simply splicing under the strands.

**The Long Splice.** Every farmer, in fact every person who has occasion to use rope, should learn to make the long splice. It is easily made, is as secure as any other part of the rope and leaves it so nearly its original size as not to impair its use through pulleys.

To make the splice first unlay the strands of the rope. A  $\frac{3}{8}$ -inch rope will require a free end of about 18 inches, a 1-inch rope about 36 inches and larger ropes in proportion. Now lock the strands of the two ropes together as in beginning the short splice, in such a manner that the strands from one end pass alternately between the strands of the other end, forming the pairs *a* no. 1, *b* no. 2 and *c* no. 3 (fig. 170). At this point care should be taken that the strands are properly paired for a mistake here cannot be detected until the splice is completed and means that the work must be repeated.

The strands from any two of the pairs, as *b*, no. 2 and *c*, no. 3, are now twisted together leaving the other pair, as *a*, no. 1, free



(fig. 174). Unlay strand *a*, one turn from its rope *x* and follow it by relaying strand no. 1 in its place, drawing it firmly and keeping it twisted tightly. Continue until 6 or 8 inches from the end of the relayed strand (no. 1) depending on the size of the rope (fig. 175).

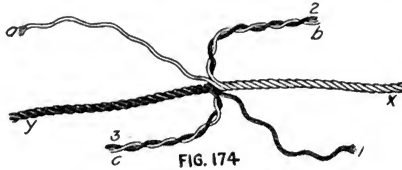


FIG. 174

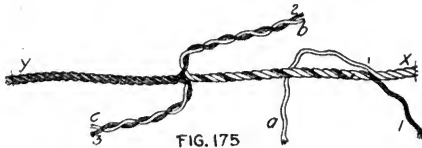


FIG. 175

## LONG SPLICE

Turn the rope end for end and untwist either pair of the twisted strands as *b* no. 2 (fig. 175). Proceeding as before, unlay strand *b* from its rope *x* and relay strand no. 2 in its place (fig. 176). Now untwist the last pair *c* no. 3. The rope should now appear as in fig. 177, the breaks should be separated the same distance and each strand coming from the left, *x* should be placed in front of the strand from the right *y*,



FIG. 176

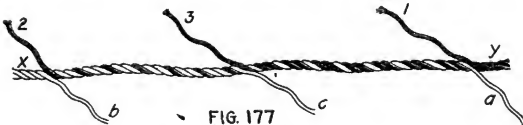


FIG. 177

## THE LONG SPLICE

so that they cannot untwist without uncrossing. To cross the strands otherwise, as *a* behind no. 1, a mistake often made, the splice cannot be properly completed.



The splice is completed as follows: With the ends properly crossed (as described in fig. 177), tie the right hand over-



FIG. 178



FIG. 180



FIG. 179

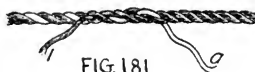


FIG. 181

FINISHING THE  
LONG SPLICE

hand knot (fig. 178; see also fig. 6) and draw it down firmly into the rope (fig. 179). The end (no. 1) is now spliced down by being passed over the first strand *a* and under the second *b* as shown by the marlinspike in fig. 179, then over the third *c* and under the fourth *a* as shown in fig. 180. Draw down the end no. 1 and cut it off leaving it  $\frac{1}{4}$ -inch long (fig. 181). In identically the same manner, splice down and cut off each of the remaining strands *a*, *b*, *c*, no. 2 and no. 3. The splice is finished by pounding down the uneven parts and rolling it on the floor under the foot (fig. 182).



FIG. 182

LONG SPLICE FINISHED

**Mending Broken Strands.** It is often desirable to mend a broken strand (fig. 183) or even to remove a portion of a rope that is badly worn or frayed. In either case unlay the strands as far as necessary, procure a new strand of sufficient length and relay it, as shown in fig. 184 and described for the long splice in figs. 174 and 175. The ends are tied with an overhand knot and finished as described for the long splice. See figs. 178 to 181.



FIG. 183

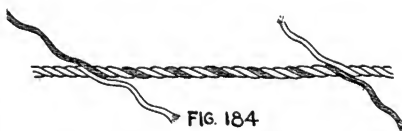


FIG. 184

MENDING BROKEN STRANDS



## HALTERS

**Rope Halters.** Rope halters are inexpensive yet very convenient and serviceable especially in handling cattle. For cattle, halters are usually made of  $\frac{5}{8}$ -inch rope but for horses, large cows and bulls a  $\frac{3}{4}$ -inch rope should be used. An ordinary halter will require about 13 feet of rope. This will allow for a tie rope 6 feet long, a 36-inch headpiece and 14-inch nosepiece.

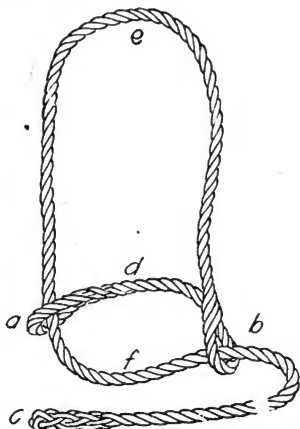


FIG 185  
DOUBLE LOOP HALTER

**Double Loop Halter.** The double loop halter has the advantage of being adjustable to animals of different sizes but it is not satisfactory for continuous use because there is some danger of its becoming loose and slipping off the head.

In beginning the double loop halter first make an eye splice (figs. 166 to 169) in one end of the rope. The loop of the splice should be just large enough to allow the rope to pass through, otherwise the halter will loosen readily. From the loop of the eye splice measure the distance that will be required to reach nearly around the animal's nose and make a loop splice (figs. 163, 164 and 165) of the same size as the loop of the eye splice. Finish the end of the rope with the end splice (figs. 160, 161 and 162, see also crown knot figs. 145, 146 and 147) and pass the end through the loops as shown in fig. 185. In the illustration *a* is the eye splice, *b* the loop splice, *c* the end splice, *d* the nosepiece, *e* the headpiece and *f* the part passing under the jaw.

**Single Loop Halter.** The single loop halter will not slip nor loosen and for the same reason it is not adjustable to different sized heads. Since it is not adjustable it will be necessary to ascertain the required length of the headpiece and nosepiece by measuring the halter on the animal's head before making the halter.



In making the single loop halter (fig. 186) the loop splice *b* described in figs. 163, 164 and 165 is made first, then the nosepiece (*c*, fig. 186) is side-spliced into the cheek piece *a*. For description of the side splice see figs. 166 to 169. See also end splice figs. 160, 161 and 162. Now pass the end through the loop splice and the halter is complete.

**Temporary Halter.** A very convenient halter for leading or temporarily holding cattle is made by fastening an iron ring or making a loop in the end of a rope. The end with the ring is first passed around the animal's neck. A loop *a* is then formed in the main rope, (fig. 187) passed through the loop *b* and over the animal's nose as shown in fig. 188. To remove the halter it is only necessary to slip the loop from the nose and draw on the standing part of the rope. Since the halter may be re-

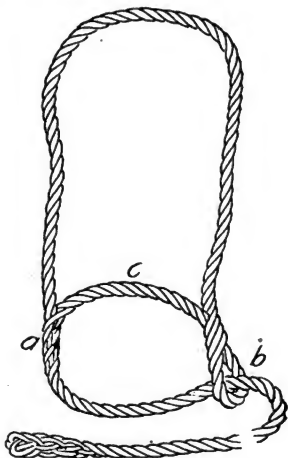


FIG. 186

SINGLE LOOP HALTER

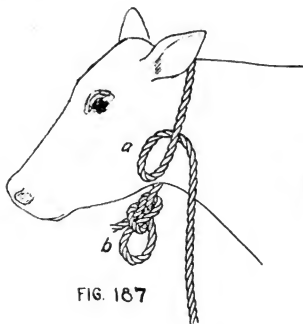


FIG. 187

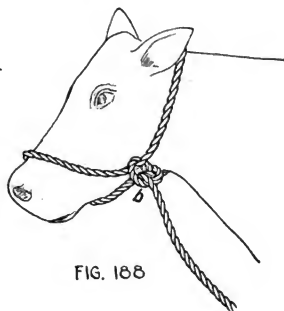


FIG. 188

TEMPORARY HALTERS



moved without passing the rope over the head it is very useful when dehorning cattle.

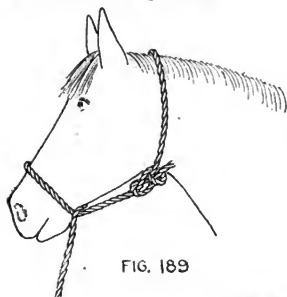


FIG. 189

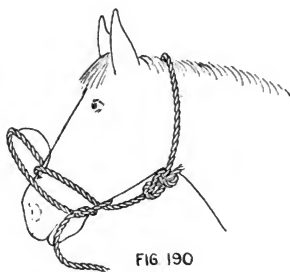


FIG. 190

#### THE HACKAMORE

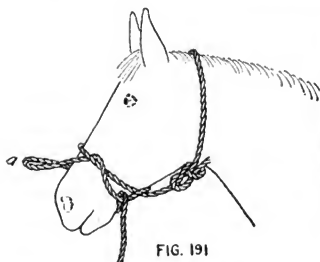


FIG. 191

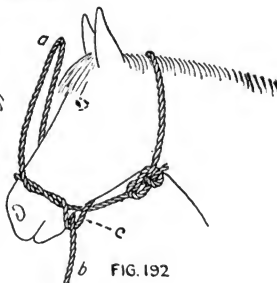


FIG. 192

**The Hackamore.** The hackamore is a temporary halter used for leading or tying either horses or cattle. It is easily and quickly made and is secure when properly drawn up.

In making the hackamore, a long rope is usually used. One end is passed around the animal's neck (fig. 189) and tied with a bowline knot. (For bowline knot see figs. 25 to 28.) A half hitch is then thrown in the rope and passed over the animal's

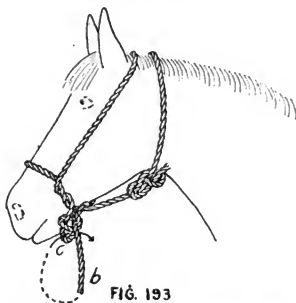


FIG. 193

#### FINISHING THE HACKAMORE



nose (fig. 189). In like manner a second half hitch is made below the first and passed over the nose (fig. 190). The front part of the first half hitch is then raised above the second as in fig. 190 and is then passed downward under the first half rope *b* in fig. 192. To prevent the loops from drawing tight, the loop *c* is drawn down and a half hitch thrown over it with the rope *b*. If the animal is to be left tied for any length of time the rope *b* is passed through the loop *c* below the half hitch as indicated by the arrow in fig. 193.

## TACKLES

**Leading or Tying.** A simple but effective method of using a rope for breaking a colt to lead is shown in fig. 194. A strong leather halter is placed on the colt's head. A long rope is procured and one end is passed around the body over the withers and just behind the front legs. It is well to have an iron ring in the end of the rope, or a loop tied with a bowline knot (figs. 25 to 28) so that the loop which passes around the body will loosen as soon as the tie rope is slacked. (A ring is best.) Pass the rope through this ring or loop, then between the front legs and over the chin piece of the halter. When the rope is tightened the colt will usually lead up with but little resistance, and if he passes the person who is leading him the chin piece of the halter acts as a pulley and his head is drawn around to the side.

This method is also often used for breaking halter-pullers. In this case the long rope is simply tied to the manger. However, if the manger is low the rope should not be passed through the chin piece of the halter but through a rope or strap loop *a* which is fastened to it. Otherwise there is too great a pull on the top of the head.

**Casting Horses.** For casting horses a rope not less than thirty-five or forty feet long, should be used. The rope is doubled and a bowline-on-the-bight tied in the center (figs. 42 to 45). This is placed over the horse's head and adjusted to the size of the neck. The rope is then passed between the fore legs, around the ankles of the hind legs, once around the main rope, as shown in fig. 195, and finally through the loop of the bowline-on-the-bight at *a*. In order to prevent the rope from burning the hind ankles, ankle straps should be used. Hame straps with iron rings, placed on the ankles answer the purpose admirably. The loop around the neck should be loose enough so that it will not choke the animal when thrown. If the horse is to be thrown on the right side the person holding



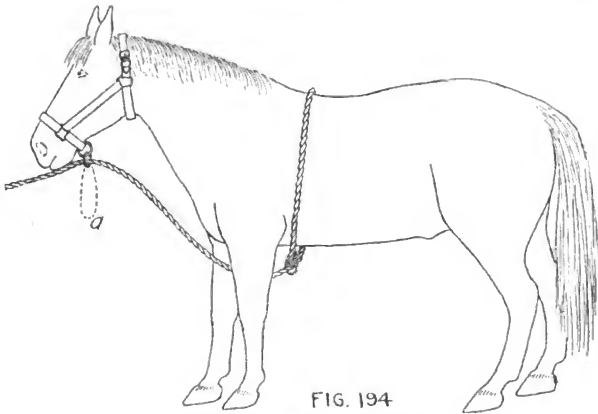


FIG. 194

A SIMPLE LEADING TACKLE

the rope on that side should stand in front and to the right, and the one holding the other rope, to the rear on the left side. The horse is then caused to back and the ropes are pulled thus drawing his hind feet up toward the body. As soon as the horse is down the person at the halter should twist the head, turning the animal's nose upward as far from the ground as possible. This prevents him from getting up.

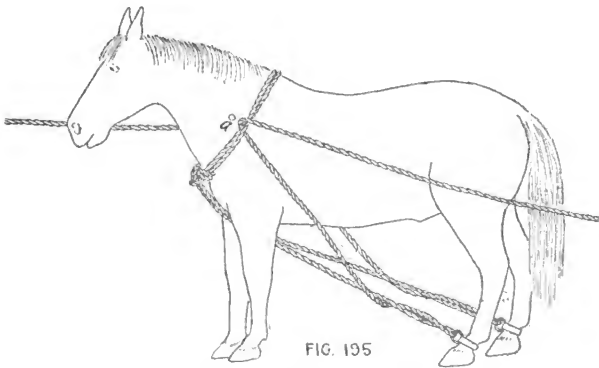


FIG. 195

CASTING A HORSE



**Casting Cattle.** For casting cattle, the method shown in the accompanying illustration (fig. 196) is simple and effective. A rope thirty-five or forty feet long is needed. Place one end around the animal's neck and tie it with a bowline knot (figs. 25 to 28). Next, pass the rope around the animal's body just back of the fore legs, making a half hitch over the

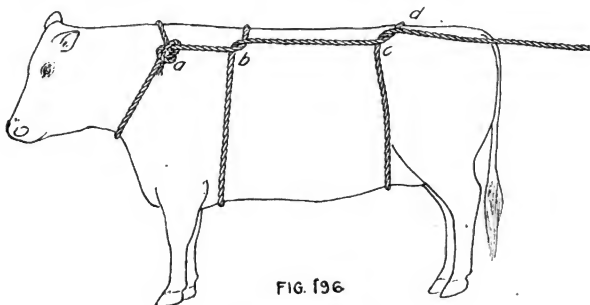


FIG. 196

## CASTING CATTLE

withers at *b*. Now pass the rope around the body at the hips letting it draw up into the flanks. It is well to have the rope on one side, as at *c*, in front of the hip bone, and the one on the other side, as at *d*, behind it. This prevents the rope from drawing too far ahead over the loin, and also from slipping too far back. In throwing a cow care should be taken that the rope is entirely in front of the udder. To throw the animal, pull to the rear and toward the side upon which she is to be thrown. When the animal is down turn the head to prevent her from rising.



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OFFICIAL PUBLICATION OF  
IOWA STATE COLLEGE OF AGRICULTURE  
AND MECHANIC ARTS

Vol. XIII

AUGUST 10, 1914

No. 9

CARE, CANDLING AND GRADING  
OF MARKET EGGS



AGRICULTURAL EXTENSION DEPARTMENT

EXTENSION BULLETIN NO. 25

Ames, Iowa

Published Tri-Monthly by the Iowa State College of Agriculture and Mechanic Arts. Entered as Second Class Matter, October 26, 1905, at the Post Office at Ames, Iowa, under the Act of Congress of July 16, 1904.

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# CARE, CANDLING AND GRADING OF MARKET EGGS

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Extension Associate Professor of Poultry Husbandry

The price of eggs has nearly doubled in the past decade. Owing to the present shortage of beef and other meat products, eggs, the best meat substitute, are certain to remain high in price. Moreover, the demand for as good a food product as the strictly fresh egg is always going to be strong. Therefore, this question is important: "Can we supply the demand with eggs that are first-class in every respect at all seasons of the year?"

## LOSS.

With their present system of marketing eggs, the loss suffered by poultry growers is enormous. It has been estimated by the United States department of agriculture that the annual preventable loss is 17 per cent, distributed as follows:

|                                      |      |
|--------------------------------------|------|
| Dirties .....                        | 2.0  |
| Breakage .....                       | 2.0  |
| Chick development .....              | 5.0  |
| Heated and shrunken .....            | 5.0  |
| Rotten eggs .....                    | 2.5  |
| Mouldy and badly flavored eggs ..... | 0.5  |
| Total .....                          | 17.0 |

It is the purpose of this bulletin to suggest how this loss may be prevented and how a highly satisfactory product may be placed on the market for food purposes.

## EGG STRUCTURE.

The egg is a perishable product and a complete knowledge of the structure of the egg is necessary to understand exactly why and the reasons for handling it as such. The egg when laid is usually germ free. The shell is composed of three distinct layers of porous construction so that the entire shell will permit gases to pass through and its water content to evaporate. The outer layer of the shell is very delicate. The strictly fresh egg has a characteristic fresh, bloom-like appearance. Frequent handling, washing, etc., removes the outer bloom-like layer, giving the eggs a shiny, greasy, old appearance and makes the shell more porous. When the outer shell covering has been removed, the moisture within evaporates more rapidly, causing the contents to shrink. Washing not only makes the shell more porous, but it moistens the two tough shell membranes, one directly in contact with the inner layer of the shell and the other



surrounding the contents of the egg. Washing causes eggs to spoil more rapidly because bacteria can enter with greater ease.

The two shell membranes separate at the large end of the egg and form what is known as the air-space. While the egg is still warm, just after being laid, there is no air-space, but as the contents cool a small air-space is formed in the large end of the egg. As the egg is held moisture evaporates, the air-space grows larger and the contents shrink. (Fig. 21.)

#### KINDS AND CAUSES OF DETERIORATION.

Deterioration happens more during the summer season, for the greatest source of deterioration is in heat and fertility. Associated with heat is loss from filth, breakage and dampness. Eggs readily absorb odors and if the best quality is to be maintained they must be kept in a room where there are no strong odors. Deterioration may be detected in the following ways: By shrinkage, breaking down of the dense white into watery white (liquefaction), germination and bacterial and mould infection. The degree of deterioration may be detected by candling the eggs before a strong light.

#### GRADES OF EGGS.

While eggs are ordinarily sold simply by the dozen and many are inclined to think that a dozen of eggs simply means twelve whole shelled eggs, many markets in the middle west are discriminating a great deal, and have established a quality system of buying. Market eggs are graded in approximately the following way by most of the Iowa packers:

I. *Extra Selects*.—Eggs in this class must be strictly fresh, large in size, clean shelled, free from stains and unwashed, contents full and white strong. This grade usually brings about 2½ cents above the price of firsts.

II. *Firsts*.—Eggs in this grade must be reasonably fresh, large in size, clean shelled, but not as full and fresh as the extra selects.

III. *Trade*.—Eggs of this grade are put up to meet the trade demands and are usually for immediate consumption. They may be nearly equal to firsts in quality, but are smaller in size and oftentimes many are slightly soiled, dirty and stained, but for immediate use they are as good as firsts. They generally sell about 4½ cents per dozen less than the firsts, and about the price of current receipts.

IV. *Seconds*.—This grade includes eggs that will not come in any of the better grades. They are composed generally of stale, shrunken eggs, eggs small in size, slightly heated and slightly soiled. They must be edible, free from rots, spots and bad eggs. The price of seconds is usually 2 cents or more below that of trade eggs.

V. *Dirties*.—This grade includes eggs that are too dirty, soiled and stained to come in any of the above grades. Washed eggs are usually placed with dirties, because they deteriorate about as rapidly



as dirty eggs. Generally the price for dirties is about the same as that of seconds, varying with the demand.

**VI. Cracks and Checks.**—Eggs that have the shell dented, but the membrane not torn and separated are placed in this grade for immediate use. At some seasons of the year the price for cracks and checks is about equal to that of dirties, but during the warmer seasons the price of cracks and checks is below that of dirties.

**VII. Leakers.**—This grade comprises eggs that are cracked or broken so that the membrane is torn and the contents leak through the cracks. This grade during the warmer seasons usually sells for about one-half to two-thirds the price of current receipts.

**VIII. Current Receipts.**—Eggs as sold by farmers and purchased from the merchants by packers or shippers and are ungraded are classed as current receipts. All of the different grades can generally be secured from a consignment of current receipts.

**IX. Rots.**—Eggs that are tested out by the candler as unfit for food purposes are called rots. There are several kinds of rotten eggs and each kind is caused by different agencies. Rots may be classified according to their degrees of badness or cause of infection or may be designated as black, white, pink or blood rots.

(1.) **Addled Egg:** Fig. 8 shows an addled egg. Note that the yolk and the white are mixed. Deterioration, age or rough handling has broken the vitelline membrane surrounding the yolk and the yolk contents have mixed with the white.

(2.) **Heated Eggs:** The first appearance of heat in fertile eggs may be noticed in the enlargement of the germ. Next, dark spots or blood-like streaks appear on and within the yolk. To the candler the yolk appears heavier, more flat and darker. Light floaters or the first appearance of heat can be determined when the egg has been held for twelve hours at 103 degrees. Figures 5, 6 and 7 show different degrees of heat. A fertile egg held at 103 degrees will usually show blood formation in 36 to 48 hours. The germ grows more or less rapidly at temperatures between 70 degrees and 109 degrees Fahr. The more rapid development of the germ seems to be at about 103 degrees. Figs. 13, 14, 16, 17, 19. A germinal or dead chick rot is shown in Fig. 10.

(3.) **White or Sour Rots:** The appearance of this egg to the candler is sort of a cloudy and weak condition of the white or a mixture of both the yolk and white. White mould may be found within the shell. The cause varies with the kind of organism producing the decomposition. Fig. 9.

(4.) **Black Rots:** Infection causing black rot usually comes through the shell, where the egg comes in contact with dampness, either from remaining on the ground in stolen nests or in cases of eggs that are set in damp quarters. The black mould remaining in contact with the inside of the shell and decomposing the contents of the egg. Fig. 11 shows a black rot and Fig. 12 the black mould fast on the shell.

## **SUGGESTIONS FOR PRODUCING THE BEST GRADE OF EGGS.**

The egg handler as well as the producer is deemed responsible in a large way for the low prices of summer eggs and the large loss that occurs. The methods of handling the eggs upon the farm as well as the methods used by the receiver seem to be very much at fault. The inferior quality caused by poor management can be largely remedied if the following suggestions are carried out:



### *Produce Infertile Eggs for Market Purposes.*

1. Do not keep mongrel stock.
2. Do not allow the nests to become filthy.
3. Separate the laying hens from the setting hens.
4. Gather the eggs at least every day, better twice a day during very warm weather.
5. Keep an eggs in a dry, cool, well ventilated place.
6. Do not keep the eggs in a kitchen near a fire of any kind.
7. Never wash eggs, as it spoils their keeping qualities.
8. Do not sell eggs case count, but demand that your eggs be candled.
9. It is best to market the eggs every three days in warm weather.
10. Do not market eggs that have been placed in an incubator and candled out.
11. Do not market small, inferior and dirty eggs. Use this kind at home.
12. Eggs readily absorb odors and should be kept away from anything such as oil, onions or any material that has a strong odor.
13. Hatch the next winter's layers before June 1.
14. Separate the male birds from the flock as soon as the hatching season is over.
15. Eggs that are of questionable quality, such as those secured from stolen nests, ought not to be marketed as fresh eggs.
16. When taking eggs to market it is better to keep them covered rather than to expose them to the sun's rays.
17. Provide plenty of nests in the houses for the hens so that they will not be compelled to seek the weeds and undesirable places under buildings to lay their eggs.
18. Note the appearance of Figures 15, 18 and 20, showing infertile eggs that have been exposed to high temperatures.

### *PROCESS OF CANDLING.*

Eggs vary so much with the different methods of keeping that to tell the exact condition of contents within the shell is an expert's duty. However, to tell whether the egg is fit for use is an easy matter and can soon be learned.

A small equipment is all that is necessary. A convenient room that can be darkened from the stronger, more direct rays of light will serve the purpose. The machine or candling device can be home made or purchased. There are a number of very convenient commercial candling devices on the market. Some of these are equipped with dry cells, while others use electric current. The device, of whatever construction, should have the following essentials:

First; that the light be strong enough to throw its rays through the egg and to show the nature of the contents to the person candling.

Second; so that it is convenient and easy to operate.

Third; that it is safe and will not catch fire.

A satisfactory candling device can be made out of a box. This box should have a removable top, large enough to permit the placing of whatever light is to be used. If a kerosene lamp is used, leave the opening at the top large enough for the chimney. If an electric light is used, just



space enough for the cord is all that is necessary. In front of the direct rays of the light make a hole a little larger than a half dollar. Place around the edges of the opening some dark felt-like material or soft, pliable leather. The opening should be made of such shape so that when the large end of the egg is held to the opening the light from within will shine through the egg. Any rays of light from around the egg or from the candling device shining into the candler's eyes makes it difficult to candle the eggs quickly and accurately. Some expert candlers use a two hole device, while many use but a one hole. It is a matter of preference as equal speed can be obtained with the one hole device.

#### HOW TO CANDLE.

Study all the cuts in this bulletin and become familiar first with an egg that is known to be strictly fresh. Hold the egg before the light, turning it from side to side, and note the appearance of the yolk. If the egg is fresh, the yolk will pass slowly before one's eyes as a shadow-like object.

As the egg ages, the white loses its firm, thick, viscous condition and becomes thinner, more watery like. This thinner white allows the yolk to pass more rapidly and the yolk appears through the thinner white to be darker in color. The air-space, separated by the two shell membranes, becomes larger as the egg ages, due to the evaporation of moisture within the egg through the shell.

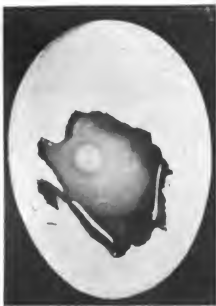


Fig. 1. Fresh fertile egg showing germ development at time egg was gathered, seven hours after it was laid.

Heated eggs, such as Figs. 3, 4, 5 and 16, can be detected by the appearance of the yolk and white quite clearly by comparing them with a fresh egg. It is hard to describe, but if the person candling breaks a few eggs, noting carefully the appearance through the candle and then after breaking, the exact condition can be learned.

Figs. 6, 7, 17 and 19 can easily be distinguished by the blood ring and enlarged germ. These eggs could not be classed as marketable eggs and should be discarded.

It is an easy matter to detect rots and spots. Fig. 21 shows the appearance through the candle. Figs. 8, 9, 10 and 11 show the rots broken into a dish.



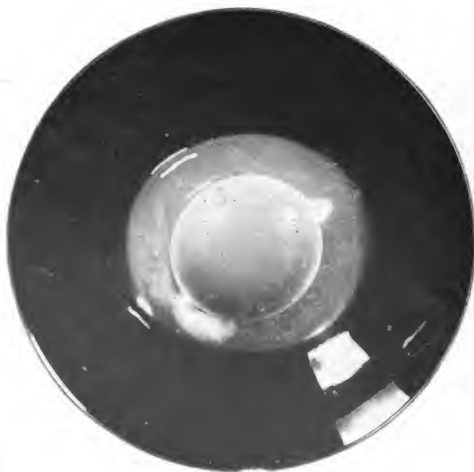


Fig. 2. Strictly fresh egg. Note the strong, heavy, thick, viscous, white, firm cords, special, well rounded yolk. "Would grade as selectis."



Fig. 3. First signs of heat. Watery thin, white, cloudy yolk, corde broken loose, enlarged germ.





Fig. 4. Sun egg. Note the round dark red like spots on yolk, sometimes called bruise spots. Might be classed as Second or poor Trade egg.

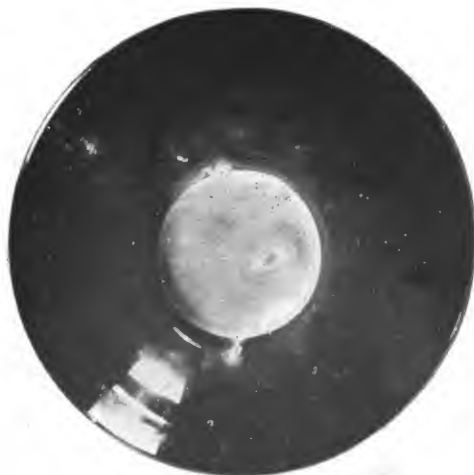


Fig. 5. First real formation of heat. Note the size of germ, watery membrane like formation on surface of yolk. Would be candied as a light floater and graded as Seconds.



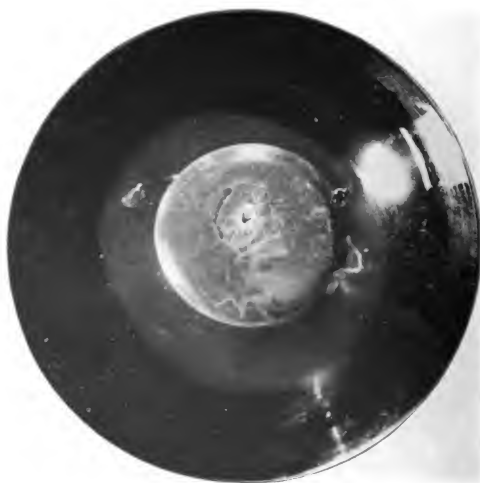


Fig. 6. Badly heated or heavy floater. While the white shows quite firm, notice how the 'germ' has developed to the place where 'blood' is ready to form.



Fig. 7. Blood ring or blood rot. The dark ring with a question mark like object in center is the young chick. Notice the appearance of the yolk as well.





Fig. 8. Addled egg



Fig. 9. White or sour rot



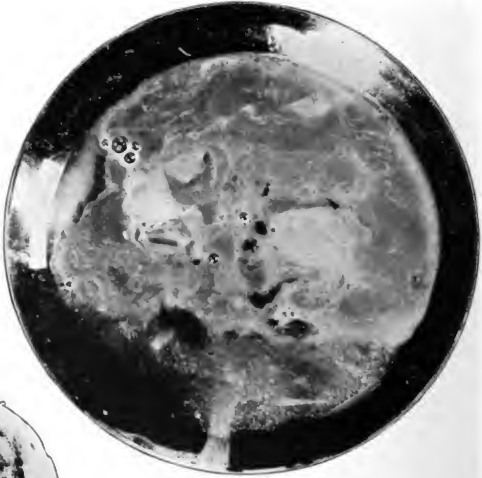


Fig. 11. Black rot,

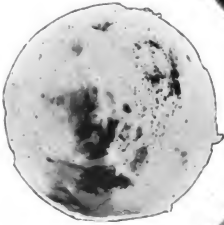


Fig. 12. Black Mould attached to shell



Fig. 10. Germinal or dead chick rot





Fig. 13. A fertile egg that has been exposed to the sun from early morning when it was laid, until gathered at night. Note the enlarged germ and the red heat spots.



Fig. 14. A fertile egg allowed to remain under a broody hen twenty-four hours after it was laid. Note the rapid growth of the germ.

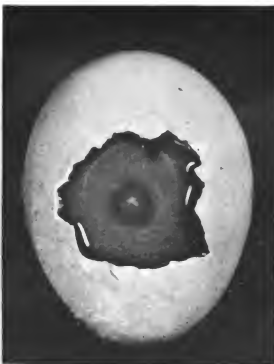


Fig. 15. An infertile egg that has been held at 103 degrees F. for 36 hours. Note the size of the germ and the lack of heat spots.



Fig. 16. A fertile egg that has been held at 103 degrees F. for 36 hours. Note the enlarged germ covering more than one half of the surface of the yolk.



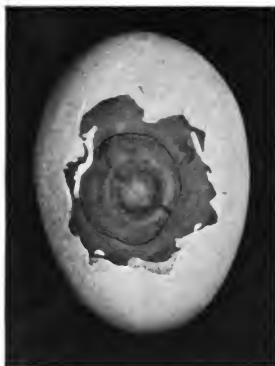


Fig. 17. A fertile egg that has been held at 103 degrees F. for 48 hours. Blood has formed and made the egg unfit for use as food.



Fig. 18. An infertile egg held for 48 hours at a temperature of 103 degrees. Note the lack of heat signs, the size of the germ is normal.



Fig. 19. This is a fertile egg that has been held at 103 degrees for sixty hours.

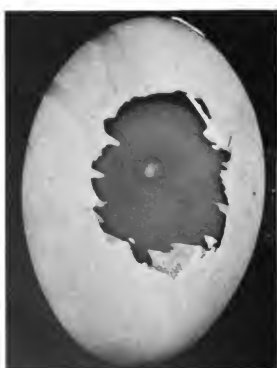


Fig. 20. This is an infertile egg that has been held at 103 degrees for sixty hours. Egg free from heat signs and good for blood purposes.





Fig. 21. Appearance of different grades of eggs before the candle  
Beginning at the left, the first is a fresh egg, the second is a stale, shrunken egg, the third a spot rot, the fourth a black rot







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